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CHURCH OF ST. OUEN, AT ROUEN.

The Illustrated
HANDBOOK OF ARCHITECTURE:

BEING A CONCISE AND POPULAR ACCOUNT OF
THE DIFFERENT STYLES OF ARCHITECTURE PREVAILING IN

All Ages and all Countries.



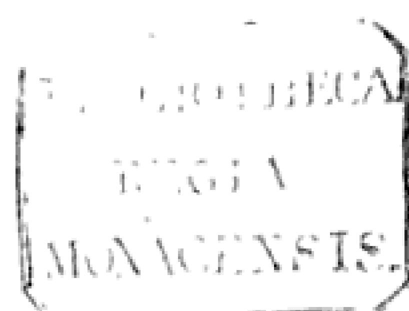
Church of Urnes, Norway.

BY JAMES FERGUSSON, M.R.I.B.A.

Second Edition.

WITH NEARLY 900 ILLUSTRATIVE ENGRAVINGS.

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PREFACE.

THERE are few branches of artistic or scientific research which have made such rapid and satisfactory progress during the last fifty years as those which serve to illustrate and elucidate the arts and architecture of bygone ages. Not only has an immense mass of new materials been collected, but new principles of criticism have been evolved, and studies which in the last century were the mere amusement of the amateur, and cultivated only as matters of taste, are now becoming objects of philosophical inquiry, and assuming a rank among the most important elements of historical research. Beyond this, which is perhaps the most generally attractive view of the matter, there is every reason to hope that the discovery now being made of the principles that guided architects in the production of their splendid works in former days, may ultimately enable us to equal, if not to surpass, all that has been hitherto done in architectural design.

With these inducements, added to the inherent beauty and interest which always attach themselves more or less to the objects of architectural art, the study of it ought to be one of the most useful as well as one of the most attractive which can occupy the attention of the public, and no doubt would be much more extensively cultivated were it not for the difficulties attending its pursuit.

Owing to the very nature of the subject, books that treat of architecture are generally large, and from the number and size of the illustrations required are also very costly, so that an architectural library is one of the most cumbersome as well as one of the most expensive that can be got together. But even among those who can collect it, few have the patience to study the plans, sections, and details which are indispensable for a scientific exposition of the various parts of a building; and after all, without some practical knowledge of the art of architecture, or some experience at least in plan drawing, it is almost impossible to restore a building so completely to the mind's eye, from a technical description, as to enable one who has not seen it to judge correctly of its form, and still less of its merits or its faults as a work of art. Even when the difficulties of understanding and realizing architectural language have been completely conquered, it

still requires years and years of study before the historical information scattered through hundreds of volumes on the principles of design can be mastered so as to enable the student to grasp the whole subject, or understand all its bearings.

The object of the present work is to remedy to some extent these inconveniences, and, by supplying a succinct but popular account of all the principal buildings of the world, to condense within the compass of two small volumes the essence of the information contained in the ponderous tomes composing an architectural library; and by generalizing all the styles known, and assigning to each its relative value, to enable the reader to acquire a more complete knowledge of the subject than has hitherto been attainable without deep study.

Up to the present time it has been hardly possible to accomplish this, and even now very much more information is required before it can be done satisfactorily for all styles; but on comparing this work with any of the older productions of its class, it is easy to see how much progress has been made, and how much nearer we are to completeness than we ever were before. At the time when Piranesi finished his splendid 'Illustrations of Architecture' (about the year 1783), the only styles known or thought worthy of attention were the Roman and the styles derived from it, with a dawning suspicion of the value of Greek art. Somewhat later (in 1800), when Durand published his famous 'Parallèle,' he devoted one plate out of sixty-three to Gothic art, and half a plate sufficed for all that was then known of Egyptian, while the Indian and many of the outlying styles were almost wholly unknown. Considerable progress had been made in 1811 when Agincourt published his celebrated work; but even then Gothic art was looked upon as a mere barbarous *décadence* from purer styles, and the revival of classic art was hailed as a real *renaissance* of true art to which the human intellect had awakened after the long night of the dark ages. By far the most comprehensive attempt made to supply the deficiency is that of Wiebeking, in a work completed in 1831. With truly German industry, he re-engraved every drawing he could collect of architectural objects, and described them all with most laudable patience; but from want of arrangement or of criticism, his work has little value beyond being a storehouse for future reference, and a landmark to show how much has been done even since it was completed.

Several other attempts have been made to supply the deficiency complained of by such works as those of Ramée and Batissier in France, and Gwilt's 'Encyclopædia of Architecture' in our own country, besides articles in all our principal encyclopædias; but none of these have quite met the difficulty, either from being too short or too exclusively popular, or from being mixed up with other matter to which illustration of the fine art architecture is made subordinate.

As these works have failed in utilising the immense mass of

information now available, either from being published too early or from other causes, it is believed that there is still room for another attempt, which, without being too popular, should yet be intelligible in every part to the general reader, and without attempting to be scientific, should from its comprehensiveness convey even to the professional artist a certain amount of knowledge not easily accessible to all. It can of course make no pretensions to compete with the splendid monographies of individual buildings which crowd the shelves of an architectural library, nor even with the separate and detailed histories of local styles. The study of these is indispensable to a perfect acquaintance with the subject, but even this may be facilitated by a general *résumé* of the whole.

One of the first difficulties of so extensive a subject is to make such an arrangement of the different styles as shall prevent any one being described before those which preceded it in time when there was any connexion between the two, and consequently before the preliminary steps by which it attained its form have been explained and elucidated. A strictly chronological arrangement will not meet this difficulty without frequent and abrupt interruptions of the continuity of the narrative, nor will one which is purely topographical. In the following pages a combination of the two methods has been attempted; and though it is only one of many that might be proposed, each of which would have some special merit of its own, still it seems to be the arrangement which meets to the greatest extent the real difficulties of the case. Except in one or two instances, there are no chronological inversions of any importance, nor any very marked interruption to the continuity of the narrative.

The first and most important division seems both obvious and convenient. By separating all architectural objects into Christian and non-Christian (the latter might be called heathen, or pagan, if these were not generally used as terms of reproach), we obtain two great divisions, very nearly equal in the importance of the objects described, and very easily distinguished from one another.

As the Christian styles in every instance arose out of the Pagan, which in almost all instances are the older, the Pagan of course take precedence; and if antiquity alone were considered, the Egyptian ought to be the first described: but in that case, after going through that style, and the Assyrian, which comes next, we naturally pass to the Greek and Roman, and the narrative must then be interrupted to make way for the Indian, the Mexican, and other styles, which have no connexion either with those which preceded, or which followed in other parts of the world. To avoid this a classification of a more topographical nature has been adopted; and commencing from the

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East, all those styles which have no internal relation with those of the West are first described, such as the Indian, Chinese, Mexican, and other similar styles. Passing from these, another group presents itself in Western Asia, almost equally independent. This style arose on the banks of the Euphrates, and spread eastward to the Indus and westward to the shores of the Mediterranean, uninfluenced, so far as we can now see, by the styles on either hand.

Having in this manner got rid of these two great groups, the reader is at liberty to pursue without interruption the history of that great style which arose in Egypt, and which, when transplanted into Greece, and mellowed by the influence of Assyria, bloomed there into greater beauty than ever was known before, but only to perish with the civilization it represented in Imperial Rome.

Two great styles, the Christian and the Saracenic, sprung from the Roman, which was the great transitional style between the ancient and modern world. As the Christian was the earliest born, and the first to die, it might seem to claim precedence; but the Saracenic attained maturity as early as the age of Charlemagne, while the Gothic styles were still in their infancy. There is therefore no incongruity in treating it first and among the Pagan styles, nor any inconvenience felt from this course, as the influence of the Christian on the Saracenic style was never sufficiently important to render a previous knowledge of the former indispensable, except in the one instance of the Turkish style of Constantinople. But this style, at present at least, is too insignificant and too little known to require a change in classification to make room for it.

The Christian styles are easily divided into two great groups by a line drawn from the head of the Adriatic to near the entrance of the Gulf of Finland. All to the eastward of this line belongs to the Sclavonic races and the Byzantine school of art; all to the westward to the Teutonic and Celtic races and Gothic school. These are so distinct from one another, and so easily defined, that either might be taken up first, and treated independently of the other; but as the Gothic is certainly derived most directly from Rome, and is by far the most important style of the two, it seems natural to give it the precedence, and the Byzantine, which is half a European, half an Asiatic style of art, thus assumes its proper place as a supplement to the great Christian style of Western Europe. This is at least its true position in our present state of knowledge: further researches may entitle it to assume a higher ground.

The minor divisions of these styles are so fully explained in the text, that it is needless repeating here what is much more easily understood and appreciated in its proper place in the body of the work.

One great division of art still remains to be described before the subject is complete. It is that style which arose in the middle

of the fifteenth century, culminated with the rebuilding of St. Peter's at Rome, and has prevailed all over Europe during the last three centuries and a half. It is infinitely inferior to the Gothic, which preceded it, as an artistic form of art, but nearly as important from the size and splendour of the buildings in which it is employed, and fully as interesting to the philosophical student of the subject, not only for what it teaches, but because it is an index to the mind of Europe during the period in which it prevailed, and is the lesson all must study who would attempt to understand the future of the noble art of architecture.

Although every possible care has been taken in selecting the best authorities for the statements in the text of the work, as well as the subjects for illustration, still no one acquainted with the state of the literature of architecture will need to be told that in many branches the materials do not exist for a correct description of the style, and that the drawings which are available are frequently so inexact, and with scales so carelessly applied, that it is impossible at times to avoid error. The plans throughout the book are on too small a scale to render any minute errors apparent, but being drawn to one scale (100 feet to 1 inch), they are quite sufficient as a means of comparison, even when not mathematically correct. They thus enable the reader to judge of the relative size of two buildings by a mere inspection of the plans, as correctly as he could by seeing the two buildings themselves, without actually measuring them in all their details.

As a general rule, the sections or elevations of buildings, throughout the book, are drawn to a scale double that of the plans, or 50 feet to 1 inch; but, owing to the great size of many of them, it has been found impossible to carry out this in all instances: where it has not been effected, the departure from the rule is always noted, either below the woodcut or in the text.

No lineal dimensions are quoted in the text except such as it is believed can be positively relied upon, and in all instances these are reduced to English feet. The superficial measures, like the plans, are quite sufficient for comparison, though not to be relied upon as absolutely correct. One great source of uncertainty as regards them is the difficulty of knowing at times what should be included in the building referred to. Should, for instance, the Lady Chapel at Ely be considered an integral part of the Cathedral, or the Chapter-house at Wells? Should the sacristies attached to Continental cathedrals be considered as part of the church? or such semi-detached towers as the south-western one at Bourges? What constitutes the temple at Karnac, and how much of this belongs to the Hypostyle Hall? These and fifty other questions occur in almost every instance, which may lead two persons to very

different conclusions regarding the superficial dimensions of a building, even without the errors inherent in imperfect materials.

When either the drawing from which the woodcut is taken was without a scale, or the scale given could not be depended upon, "No scale" has been put under the cut to warn the reader of the fact. When the woodcut was either too large for the page, or too small to be distinct if reduced to the usual scale, a scale of feet has been added under it, to show that it is an exception to the rule.

Capitals, windows, and details which are meant to illustrate forms or construction, and not particular buildings, are drawn to any scale that seemed best to express the purpose for which they are inserted; when they are remarkable for size, or as individual examples, a scale has been added; but this is the exception, not the rule.

One object that has been steadily kept in view in this work has been to show that architecture may be efficiently illustrated by plates on a small scale, yet sufficiently clear to convey instruction to professional architects. Every pains has been taken to secure the greatest possible amount of accuracy, and in all instances the sources from which the woodcuts have been taken are indicated. Many of the illustrations are from original drawings, and of buildings never before published.

The above remarks with regard to the want of information or the incompleteness of illustration hardly apply to the Pagan styles. There are very few of those which might be classed under the head of "Non-Christian styles" which have not been as fully and as correctly illustrated as their importance deserves, though more information regarding some points would be both desirable and convenient. But very few of the Christian styles were illustrated at all at the beginning of this century, and even at this time such a country as Spain is almost a terra incognita to architects. Now, however, that people are getting satiated with the plaster prettinesses of the Alhambra, we may hope that attention will be turned to the grander and simpler works of the Christians in that country, and that this chapter will not remain the blank it has hitherto been.

The English Gothic is, of all the Christian styles, the one which has been most fully examined and illustrated; numberless books have been published on the subject in this country; and, as information is obtainable in almost any form regarding it, all that is attempted here is to compare it with other similar styles, and to place its merits in their true light relatively to the other forms of art brought under view in the various chapters of this work.

A most lamentable deficiency of information exists regarding the styles prevailing in all the countries occupied by the Turks, both in Europe and in Asia. Neither the Government nor the people of those countries will of course do anything to elucidate this subject, and hitherto religious jealousy has prevented access to mosques or churches

consecrated to Mahometan purposes; but these difficulties are fast disappearing, and as the subject is so interesting, and the materials so abundant, it is hoped that before long the Byzantine may be as perfectly understood as the Gothic styles of architecture. Even at present I know of the existence of unpublished drawings almost sufficient for this purpose. Those made by M. Charles Texier would in themselves almost suffice, and many others exist in the portfolios of those who have visited the country. Many of these are kept back from the idea that their authors may find an opportunity of publishing them themselves, a few from an unwillingness that others should profit by the labours of those who made them, but far more from their authors not knowing how or when to render them available to the public. I am not without hopes that if this work attain a certain amount of circulation, those who possess drawings or information to which I have not access may be induced to lend them to me for the purpose of correcting errors or of supplying deficiencies. If this is done, there will be no difficulty in rendering a second edition of this work far more complete and more worthy of the noble subject it is intended to illustrate than it can pretend to be at present.

In the mean time I have to thank my friends Messrs. Pentland, F. Penrose, Edward Falkener, and Gawen, as well as Messrs. Billings, Wilkinson, and others who have lent me either woodcuts or the materials for them, and so assisted materially in enriching the illustration of the work; and above all I have to thank the Rev. Charles Penrose for the invaluable assistance he has afforded me in passing the work through the press.

All the woodcuts executed expressly for the work were engraved by Mr. Robert Branston, and it need hardly be remarked that they are done with his accustomed clearness and accuracy.

In conclusion, it is earnestly requested that those whose superior knowledge enables them to detect errors or to supply deficiencies will kindly communicate their observations to the author, whose most earnest desire in publishing this work is to place in the hands of the public a book which shall be deemed worthy of that noble art to the study of whose principles he has devoted the best years of his life and the best energies of his mind.

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Page 332, *for* "Baths of Diocletian," *read* "Baths of Caracalla."
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INTRODUCTION.

Few questions are more frequently asked, and few have hitherto been more difficult to answer satisfactorily, than the inquiry, "*What is architecture?*" "*What are the true principles which ought to guide us in designing or criticising architectural objects?*"

Fifty years ago the answers to these questions generally were, that architecture consisted in the closest possible imitation of the forms and orders employed by the Romans; that a church was well designed exactly in the proportion in which it resembled a heathen temple; and a civic building was to be measured by its imitation, more or less perfect, of some palace or amphitheatre of classic times.

In the beginning of this century these answers were somewhat modified by the publication of Stuart's works on Athens; the word Grecian was substituted for Roman in all criticisms, and the few forms that remained to us of Grecian art were repeated *ad nauseam* in buildings of the most heterogeneous class and character.

At the present day churches have been entirely removed from the domain of classic art, and their merit is made to depend on their being correct reproductions of mediæval designs. Museums and town-halls still adhere to classic forms, alternating between Greek and Roman; while some of our public buildings attempt to reproduce the middle ages, and palaces and clubhouses adhere to that compromise between classicality and common sense which is generally called Italian. These, it is evident, are the mere changing fashions of art. There is nothing real or essential in this Babel of styles, and we must go deeper below the surface to enable us to obtain a true definition of the art or of its purposes. Before attempting this, it is essential to bear in mind that two wholly different systems of architecture have prevailed at different periods in the world's history.

The first is that which prevailed in Egypt, in Greece, and in all Europe, during the middle ages, and generally in all countries of the world down to the time of the Reformation in the 16th century, and still prevails in remote corners of the globe wherever European civilization or its influences have not yet penetrated. The other was that which was introduced with the revival of classic literature contemporaneously with the reformation of religion, and still pervades all Europe, and wherever European influence has established itself.

In the first period the art of architecture consisted in designing a building so as to be most suitable and convenient for the purposes it was wanted for, in arranging the parts so as to produce the most

stately and ornamental effect consistent with its uses, and applying to it such ornament as should express and harmonise with the construction, and be appropriate to the purposes of the building; while at the same time the architects took care that the ornament should be the most elegant in itself which it was in their power to design.

Following this system, not only the Egyptian, the Greek, and the Gothic architects, but even the indolent and half-civilised inhabitants of India, the stolid Tartars of Thibet and China, and the savage Mexicans, succeeded in producing great and beautiful buildings. No race, however rude or remote, has failed, when working on this system, to produce buildings which are admired by all who behold them, and are well worthy of the most attentive consideration. Indeed it is almost impossible to quote one single building in any part of the world, erected during the prevalence of true art, which was not thought beautiful, not only by those who erected it, but which remains a permanent object of admiration and of study for all future ages.

The result of the other system is widely different from this. It has now been practised in Europe for more than three centuries, and by people who have more knowledge of architectural forms, more constructive skill, and more power of combining science and art to effect a great object, than any people who ever existed before. Notwithstanding this, from the building of St. Peter's at Rome to that of our own Parliament Houses, not one building has been produced that is admitted to be entirely satisfactory, or which permanently retains a hold on general admiration. Many are large and stately to an extent almost unknown before, and many are ornamented with a profuseness of which no previous examples exist; but with all this, though they conform with the passing fashion of the day, they soon become antiquated and out of date, and men wonder how such a style could ever have been thought beautiful, just as we wonder how any one could have admired the female costumes of the last century which captivated the hearts of our grandfathers.

It does not require us to go very deep into the philosophy of the subject to find out why this should be the case; the fact simply being that no sham was ever permanently successful, either in morals or in art, and no falsehood ever remained long without being found out, and when detected it inevitably ceases to please. It is literally impossible that we should reproduce either the circumstances or the feelings which gave rise to classical art, and made it a real thing; and though Gothic art was a thing of our country and of our own race, it belongs to a state of society so totally different from anything that now exists, that any attempt to reproduce it now must at best be a masquerade, and never can be a real or an earnest form of art. The designers of the Eglinton tournament carried the system to a perfectly legitimate conclusion when they attempted to reproduce the costumes and warlike exercises of our ancestors; and the pre-Raphaelite painters were as fully justified in attempting to do in painting what was done every day in architecture. Both attempts failed signally, because we had progressed in the arts of war and painting, and could easily detect the absurdity of

the practices. It is in architecture alone that the false system remains, and we do not yet perceive the impossibility of its leading to any satisfactory result.

Bearing this distinction in mind, let us try if we can come to a clearer definition of what this art really is, and in what its merits consist. Let us suppose Diagram No. I. to represent a cotton-factory,

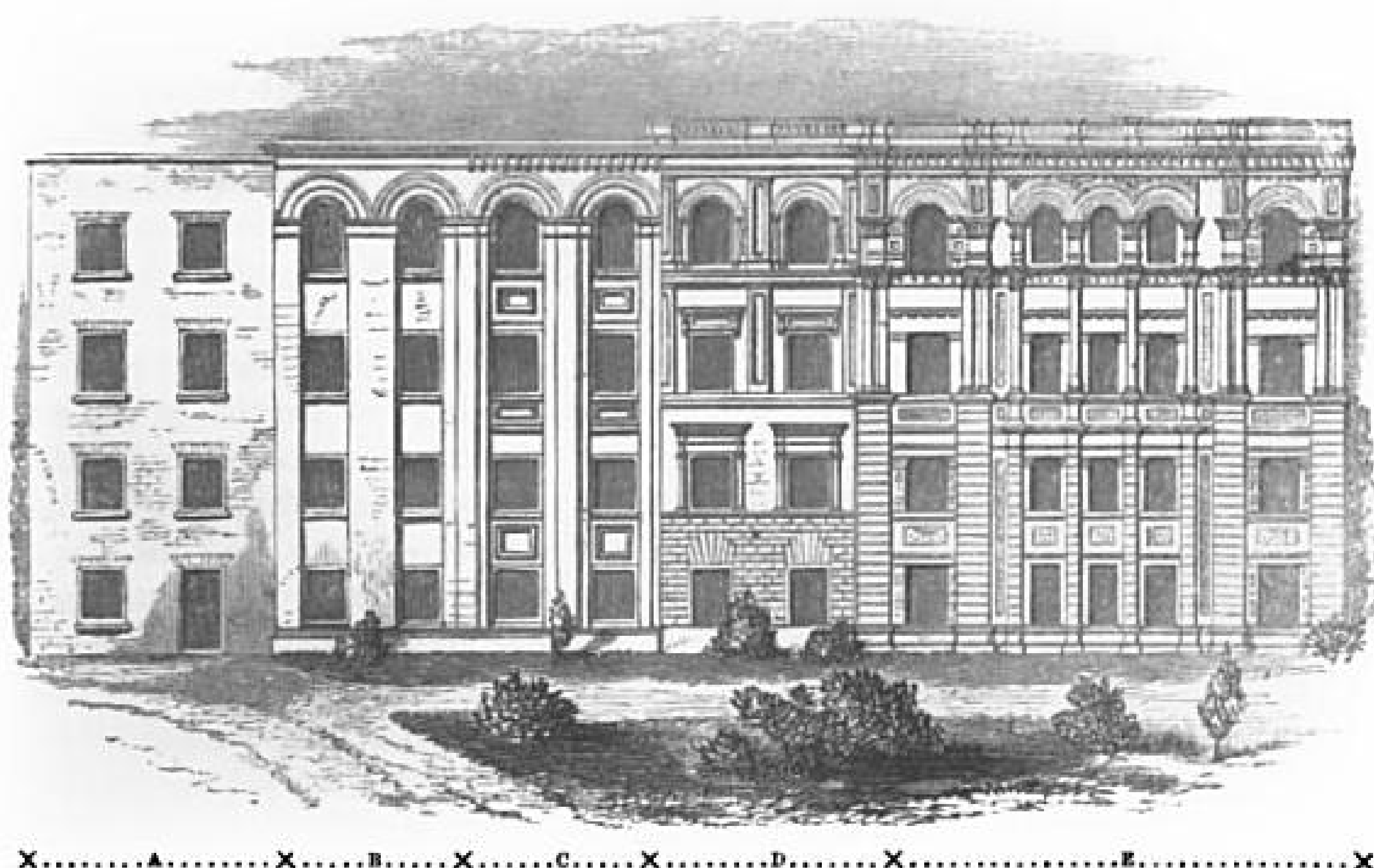


Diagram No. I.

a warehouse, or any very common-place utilitarian building. The first division, A, is not only the most prosaic form of building, but is bad building, as no attempt is made to strengthen the parts requiring it, and no more thought is bestowed upon it than if it were a garden wall or a street pavement. The second division, B, is better: the arching of the upper windows binds together the weakest parts, and gives mass where it is most needed to resist the pressure or thrust of the roof; and the carrying down the piers between the windows gives strength where wanted. In this stage the building belongs to civil engineering, which may be defined as the art of disposing the most suitable materials in the most economical but scientific manner to attain a given utilitarian end. In the third division, C, this is carried still farther; the materials are better disposed than in the last example, and even without the slight amount of ornament applied, it is a better example of engineering. The ornament is not more than would be considered in some states of society indispensable for even the most utilitarian buildings. The cornice may be said to be required to protect the wall from wet; the consoles to support it; and the mouldings at the springing of the arch may be insertions required for stability. In the present day, however, even this slight amount of ornament is almost sufficient to take it out of the domain of useful art into that of architecture. The fourth division, D, is certainly within the

limits of the province of architecture; and though it may be bad art, still the amount of ornament applied, all other things remaining the same, entitles this division to rank as a work of the fine art, architecture. The fifth division, E, carries the advance still farther. In this instance not only is a greater amount of ornament applied, but the parts are so disposed as in themselves to produce a more agreeable effect; and although the height of the floors remains the same, and the amount of light introduced very nearly so, still the slight grouping of the parts is such as to produce a better class of architecture than could be done by the mere application of any amount of ornament.

If it is admitted that the last division in the diagram is an object of architecture, which the first is not, it follows from this analysis that architecture is nothing more or less than the art of *ornamental and ornamented construction.*

Taking, for instance, the Parthenon, to illustrate this principle farther. The proportions of length to breadth, and of height to both these, are instances of carefully-studied ornamental construction; and still more so is the arrangement of the porticos and the disposition of the peristyle. If all the pillars were plain square piers, and all the mouldings square and flat, still the Parthenon could not fail, from the mere disposition of its parts, to be a pleasing and imposing building. So it is with a Gothic cathedral. The proportion of length to breadth, the projection of the transepts, the different height of the central and side aisles, the disposition and proportion of the towers, are all instances of ornamental construction, and beautiful even if without ornament. Many of the older abbeys, especially those of the Cistercians, are as devoid of ornament as a modern barn; but from the mere disposition of their parts they are always pleasing, and if large, are imposing objects of architecture. Stonehenge is an instance of ornamental construction wholly without ornament, yet it is almost as imposing an architectural object as any of the same dimensions in any part of the world. It is, however, when ornament is added to this, and that ornament is elegant in itself, and appropriate to the construction and to the purposes of the building, that the temple or the cathedral ranks among the highest objects of the art, and becomes one of the noblest works of man.

Even without ornamental construction, a building may, by mere dint of ornament, become an architectural object, though it is far more difficult to attain good architecture by this means, and in true styles it was seldom attempted. Still such a building as the town-hall at Louvain, which if stripped of its ornaments would be little better than a factory, by richness and appropriateness of ornament alone has become a very pleasing specimen of the art. In modern times it is too much the fashion to attempt to produce architectural effects not only without attending to ornamental construction, but often in defiance of and concealing the construction that exists. When this is done, the result must be bad art, but nevertheless it is architecture, however execrable it may be.

If these premises are correct, the art of the builder consists in

merely heaping materials together, so as to attain the desired end in the speediest and readiest fashion. The art of the civil or military engineer consists in selecting the best and most appropriate materials for the object he has in view, and using these in the most scientific manner, so as to ensure an economical but satisfactory result. Where the engineer leaves off, the art of the architect begins. His object is to arrange the materials of the engineer, not so much with regard to economical as to artistic effects, and by light and shade, and outline, to produce a form that in itself shall be permanently beautiful. He then adds ornament, which by its meaning doubles the effect of the disposition he has just made, and by its elegance throws a charm over the whole composition.

Viewed in this light, it is evident that there are none of the objects which are usually delegated to the civil engineer which may not be brought within the province of the architect. A bridge, an aqueduct, the embankment of a lake, or the pier of a harbour, are all as legitimate subjects for architectural ornament as a temple or a palace. They were all so treated by the Romans, and in the middle ages, and are so treated up to the present day in the remote parts of India, and wherever true art prevails.

It is not necessary that the engineer should know anything of architecture, though it certainly would be better in most instances if he did; but, on the other hand, it is indispensably necessary that the architect should understand construction. Without that knowledge he cannot design; but it would be well if, in most instances, he could delegate the mechanical part of his task to the engineer, and so restrict himself entirely to the artistic arrangement and the ornamentation of his design. This division of labour is essential to success, and was always practised where art was a reality; and no great work should be undertaken without the union of the two. Perfect artistic and perfect mechanical skill can hardly be found combined in one person, but it is only by their joint assistance that a great work of architecture can be produced. A building may be said to be architectural in the proportion in which the artistic or ornamental purposes are allowed to prevail over the mechanical; and an object of engineering, where the utilitarian exigencies of the design are allowed to prevail over the artistic. But it is nowhere possible to draw the line sharply between the two, nor is it desirable to do so. Architecture can never descend too low, nor need it ever be afraid of ornamenting too mean objects; while, on the other hand, good engineering is absolutely indispensable to a satisfactory architectural effect of any class. The one is the prose, the other is the poetry of the art of building.

One great cause of the confusion which has arisen in applying principles of criticism, or in defining architecture, is to be found in persons applying to the constructive art of architecture principles derived from the imitative arts of painting or sculpture, while in fact no two things could in reality be more essentially different.

Neither painting nor sculpture were ever useful arts except in the most barbarous times, and by the most remote analogy. Their object

is to tell a story, to reproduce an emotion, or to portray a scene or object of nature; and they effect this by a direct imitation, more or less correct and literal, of what actually exists, either in nature or in art. Architecture, on the other hand, was originally one of the useful arts, invented to provide for one of the three great wants of man—food, clothing, and shelter. The wigwam grew into a hut, the hut into a house, the house into a palace, and the palace into a temple, by well-defined and easily-traced gradations; but it never lost the original idea of a shelter, and in its most magnificent form it is a mere amplification of the original hut, but grown so solid that it seems designed to last for ever, and so well-proportioned and so exquisitely ornamented that, instead of being one of the most commonplace, it ranks with the most beautiful productions of man's hands. In none of its stages is imitation an element of composition; no true building ever was designed to look like anything in either the animal, vegetable, or mineral kingdoms. In all instances it is essentially a creation of man's mind, and designed to subserve some practical purpose which he has in view. A building can tell no story, and it is only by inference that it can be made to express an emotion.

It is true that painting and sculpture may be added to a building to any extent, and a really perfect building is never without these adjuncts; but they are not, or at least never should be, essentials, and the building should be always complete without them. All our cathedrals were so adorned in the middle ages, and in almost all instances this ornament has been swept away. Still the buildings remain complete in themselves as works of architecture, though as grand artistic compositions their value was no doubt doubled by the association: but this does not justify us in judging of the canvas by the same rules that we would judge of the picture that may be painted upon it, or of the marble by the figure that may be carved out of it.

The fact is that architecture is in its origin as essentially a useful art as weaving or shipbuilding, but almost alone of all her sister-arts it is the one that has, from various concurrent circumstances, been refined into a fine art. When inspired with so lofty an aim as that of providing a house or temple worthy of the Deity, it became one of the noblest and most beautiful of man's creations, but still essentially of human design in all its parts, and never striving to imitate nature, except in copying, as far as man's finite intelligence can do, those perfect principles of design which pervade every natural production, to be found wherever man's knowledge extends throughout the whole universe of God.

The most convenient place for explaining the principles of architecture is when describing and criticising the various buildings which form the subject of the body of the work; but it may materially assist the reader to judge of the various styles and specimens of architecture described in the following pages, if the leading principles and elements of the art are collected and enumerated as briefly as can be done consistently with clearness.

II.—Mass.

The first and most obvious element of architectural grandeur is size—a large edifice being always more imposing than a small one; and when the art displayed in two buildings is equal, their effect is almost in the direct ratio of their dimensions. In other words, if one temple or church is twice or three times as large as another, it is twice or three times as grand or as effective. The Temple of Theseus differs very little, except in dimensions, from the Parthenon, and, except in that respect, hardly differed at all from the Temple of Jupiter at Elis, but because of its smaller size it must rank lower than the greater examples. In our own country many of our smaller abbeys or parish churches display as great beauty of design or detail as our noblest cathedrals, but, from their dimensions alone, they are insignificant in comparison, and the traveller passes them by, while he stands awe-struck before the portals or under the vault of the larger edifices.

The pyramids of Egypt, the topes of the Buddhists, the mounds of the Etruscans, depend almost wholly for their effect on their dimensions. The Romans understood to perfection the value of this element, and used it in its most unsophisticated simplicity to obtain the effect they desired. In the middle ages the architects not only aspired to the erection of colossal edifices, but they learnt how they might greatly increase the apparent dimensions of a building by a scientific disposition of the parts and a skilful arrangement of ornament, making it look very much larger than it really was. It is in fact the most obvious, though it must be confessed perhaps the vulgarest, means of obtaining architectural grandeur, and it is also the most certain; but a true and perfect example can never be produced by dependence on this alone, and it is only when combined with beauty of proportion and elegance of ornament that perfect architecture is produced.

III.—Stability.

Next to size the most important element is stability. By this is meant, not merely the strength required to support the roof or to resist the various thrusts and pressures, but that excess of strength over mere mechanical requirement which is necessary thoroughly to satisfy the mind, and to give to the building a monumental character, and an appearance as if it could resist the shocks of time or the violence of man for ages yet to come.

No people understood the value of this so well as the Egyptians. The form of the Pyramids is designed wholly with reference to stability, and even the Hypostyle Hall at Karnac excites admiration far more by its eternity and strength than by any other element of design. All utilitarian exigencies and many other obvious means of effect are sacrificed to this, and with such success that after 3000 years still enough remains for the admiration which even the most unpoetical spectators cannot withhold from its beauties.

In a more refined style much of the beauty of the Parthenon arises from this cause. The area of each of the pillars of the Pantheon at Rome is under 20 ft., that of those of the Parthenon is over 33 ft., and, considering how much taller the former are than the latter, it may be said that the pillars at Athens are twice as massive as those of the Roman temple, yet the latter have sufficed not only for mechanical, but for many points of artistic stability; but the strength and solidity of the portico of the Parthenon, without taking into consideration its other points of superiority, must always render it more beautiful than the other.

The massiveness which the Normans and other early Gothic builders imparted to their edifices arose more from clumsiness and want of constructive skill than from design; but, though arising from so ignoble a motive, its effect is always grand, and the rude Norman nave often surpasses in grandeur the airy and elegant choir which was afterwards added to it. In our own country no building is more entirely satisfactory than the nave at Winchester, where the width of the pillars exceeds that of the aisles, and the whole is Norman in outline, though Gothic in detail. On the other hand, no building of its dimensions and beauty of detail can well be so unsatisfactory as the choir at Beauvais. Though it has stood the test of centuries, it looks so frail, requires so many props to keep it up, and is so evidently an overstrained exercise of mechanical cleverness, that though it may excite wonder as an architectural *tour de force*, it never can satisfy the mind of the true artist, or please to the same extent as less ambitious examples.

Even when we descend to the lowest walks of architecture we find this principle prevailing. It would require an immense amount of design and good taste to make the thin walls and thinner roof of a brick and slated cottage look so picturesque or so well as one built of rubble-stone, or even mud walls, and with a thatched roof; the thickness and apparent solidity of the one will always be more satisfactory than the other. Here, as in most cases, necessity controls the architect; but when fettered by no utilitarian exigencies, there is no safer or readier means of obtaining an effect than this, and when effect alone is sought it is almost impossible for an architect to err in giving too much solidity to his building. Size and stability are alone sufficient to produce grandeur in architectural design, and, where sublimity is aimed at, they are the two elements most essential to its production, and are indeed the two without which it cannot possibly be attained.

IV.—Materials.

Another very obvious mode of obtaining architectural effect is by the largeness or expensiveness of the materials employed. A terrace, or even a wall, if composed of large stones, is in itself an object of considerable grandeur, while one of the same lineal dimensions and of the same design, if composed of brick or rubble, may appear a very contemptible object.

Like all the more obvious means of architectural effect, the Egyptians seized on this and carried it to its utmost legitimate extent. All their buildings, as well as their colossi and obelisks, owe much of their grandeur to the largeness of the materials employed in their construction. The works called Cyclopean found in Italy and Greece have no other element of grandeur than the size of the stones or rather masses of rock which the builders of that age were in the habit of using. In Jerusalem nothing was so much insisted upon by the old writers, or is so much admired now, as the largeness of the stones employed in the building of the Temple and its substructions.

We can well believe how much value was attached to this when we find that in the neighbouring city of Baalbec stones were used of between 60 and 70 ft. in length, weighing as much as the tubes of the Britannia Bridge, for the mere coping of a terrace wall. Even in a more refined style of architecture, a pillar, the shaft of which is of a single stone, or a lintel or architrave of one block, is always a grander and more beautiful object than if composed of a number of smaller parts. It is easy to see that this arises from the same feeling to which massiveness and stability address themselves. It is the expression of giant power and the apparent eternity of duration which they convey; and in whatever form that may be presented to the human mind, it always produces a sentiment tending towards sublimity, which is the highest effect at which architecture or any other art can aim.

The Gothic architects ignored this element of grandeur altogether, and sought to replace it by the display of constructive skill in the employment of the smaller materials they used, but it is extremely questionable whether in so doing they did not miss one of the most obvious and most important elements of architectural design.

Besides this there is another element in the mere material which is a cause of architectural effect; it is that of value, though it is by no means so easy to point out why this should be the case. Still we all admire an ornament of pure gold more than one that is only silver gilt, though few can detect the difference. Persons will travel hundreds of miles to see a great diamond or wonderful pearl, who would not go as many yards to see paste models of them, though if the two were laid together on the table very few indeed could distinguish which was the real, which the counterfeit.

From something of the same feeling we admire a marble building more than one of stone, though the colour of the latter may be really more beautiful and the material at least as durable. In the same manner a stone edifice is preferred to one of brick, and brick to wood and plaster; but even these conditions may be reversed by the mere question of value. If a brick and a stone edifice stand close together, the design of both being equally appropriate to the material employed, but if the bricks are so beautifully moulded, or made of such precious clay, or so carefully laid, that the brick edifice cost twice as much as the other, our judgment would be turned, and we should look with more respect and admiration on the artificial than on the

natural material. From the same reason many elaborately carved wooden buildings, notwithstanding the smallness of their parts and their perishable nature, are more to be admired than larger and more monumental buildings, and this merely in consequence of the evidence of labour and consequent cost that have been bestowed upon them.

Irrespective of these considerations, many building materials are invaluable from their own intrinsic merits. Granite is one of the best known from its hardness and durability, marble from the exquisite polish it takes, and also for its colour, which for internal decoration is a property that can hardly be over-estimated. Stone is valuable on account of the largeness of the blocks that can be obtained, and because it easily receives a polish sufficient for external purposes. Bricks are excellent for their cheapness and the facility with which they can be used, and they may also be moulded into forms of great elegance, but sublimity is nearly impossible in brickwork, without at least such dimensions as have rarely been attained by man; the smallness of the material is such a manifest incongruity with the largeness of the parts, that even the Romans could not overcome the difficulty.

Plaster is another artificial material. Except in monumental erections it is superior to stone for internal purposes, and always better than brick from the uniformity and smoothness of its surface, the facility with which it is moulded, and its capability of receiving painted or other decorations to any extent.

Wood should only be used externally on the smallest and least monumental class of buildings, and even internally is generally inferior to plaster. It is dark in colour, liable to warp and split, and combustible, which are all serious objections to its use, except for flooring, doors, and such purposes as it is now generally applied to.

Cast iron is another material rarely brought into use, though more precious than any of those above enumerated, and possessing more strength, though probably less durability. Where lightness combined with strength is required, it is invaluable, and may be moulded into any form of beauty that may be designed, but it has hardly yet ever been used so as to allow its architectural qualities to be appreciated.

All these materials are nearly equally good when used honestly each for the purpose for which it is best adapted; they all become bad either when used for a purpose for which they are not appropriate, or when one material is used either in the place of or to imitate another. Grandeur and sublimity can only be reached by the more durable and more massive class of materials, but beauty and elegance are attainable in all, and the range of architectural design is so extensive that it is absurd to limit it to one class either of natural or of artificial materials, or to attempt to proscribe the use of some, and to insist on that of others, for purposes to which they are manifestly inapplicable.

V.—Construction.

Construction has been shown to be the chief aim and object of the engineer; with him it is all in all, and to construct scientifically and at the same time economically is the beginning and end of his endeavours. It is far otherwise with the architect. Construction ought to be his handmaid, useful to assist him in carrying out his design, but never his mistress, controlling him as to the mode of executing what he would otherwise think expedient. An architect ought always to allow himself such a margin of strength that he may disregard or play with his construction, and in nine cases out of ten the money spent in obtaining this solidity will be more effective architecturally than twice the amount expended on ornament, however elegant or appropriate that may be.

So convinced were the Egyptians and Greeks of this principle that they never used any other constructive expedient than a perpendicular wall or prop, supporting a horizontal beam, and half the satisfactory effect of their buildings arises from their adhering to this simple though expensive mode of construction. They were perfectly acquainted with the use of the arch and its properties, but they knew that its employment would introduce complexity and confusion into their designs, and therefore they wisely rejected it. Even to the present day the Hindus refuse to use the arch, though it has long been employed in their country by the Mahometans. As they quaintly express it, "An arch never sleeps," and it is true that by its thrust and pressure it is always tending to tear a building to pieces; in spite of all counterpoises, whenever the smallest damage is done, it hastens the ruin of a building, which, if more simply constructed, might last for ages.

The Romans were the first who introduced a more complicated style. They wanted larger and more complex buildings than had been before required, and they also employed brick to a great extent even in their temples and most monumental buildings. They obtained both space and variety by these means, with comparatively little trouble or expense; but we miss in all their works that repose and harmony which is the great charm that pervades the buildings of their predecessors.

The Gothic architects went even beyond the Romans in this respect. They prided themselves on their constructive skill, and paraded it on all occasions, and often to an extent very destructive of true architectural design. The lower story of a French cathedral is generally very satisfactory; the walls are thick and solid, and the buttresses, when not choked up with chapels, just sufficient for shadow and relief; but the architects of that country were seized with a mania for clerestories of gigantic height, and which should appear internally mere walls of painted glass divided by mullions. This could only be effected either by encumbering the floor of the church with piers of inconvenient thickness or by a system of buttressing outside. The

latter was the expedient adopted; but notwithstanding the ingenuity with which it was carried out, and the elegance of many of the forms and ornaments used, it was singularly destructive of true architectural effect. It not only produces confusion of outline and a total want of repose, but it is eminently suggestive of weakness, and one cannot help feeling that if one of these props were removed, the whole would tumble down like a house of cards.

This was hardly ever the case in England: the less ambitious dimensions employed in this country enabled the architects to dispense in a great measure with these adjuncts, and when flying buttresses are used, they look more as if employed to suggest the idea of perfect security than as necessary to stability. Owing to this cause the French never were able to construct a satisfactory vault in consequence of the weakness of their supports; they were forced to stilt, twist, and dome their vaults to a most unpleasing extent, and to attend to constructive instead of artistic necessities. With the English architects this never was the case; they always were able to design their vaults in such forms as they thought would be most beautiful artistically, and, owing to the greater solidity of their supports, to carry them out as designed.[1]

It was left for the Germans to carry this system to its acme of absurdity. Half the merit of the old Round arched Gothic cathedrals on the Rhine consists in their solidity and the repose they display in every part. Their walls and other essential constructions are always in themselves sufficient to support the roofs and vaults, and no constructive contrivance is seen anywhere; but when the Germans adopted the pointed style, their builders—they cannot be called architects—seemed to think that the whole art consisted in supporting the widest possible vaults on the thinnest possible pillars, and in constructing the tallest windows with the most attenuated mullions. The consequence is, that though their constructive skill still excites the wonder of the mason or engineer, the artist or the architect turns from the cold vaults and lean piers of their later cathedrals with a painful feeling of unsatisfied expectation, and wonders how such dimensions and such details should produce so utterly unsatisfactory a result.

So many circumstances require to be taken into consideration that it is impossible to prescribe any general rules in such a subject as this, but the following table will explain to a certain extent the ratio of the area to the points of support in sixteen of the principal buildings of the world.[2] As far as it goes, it tends to prove that the satisfactory architectural effect of a building is nearly in the inverse ratio to the mechanical cleverness displayed in its construction.

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[1] It may be suggested that the glory of a French clerestory filled with stained glass made up for all these defects, and it may be true that it did so; but in that case the architecture was sacrificed to the sister art of painting, and is not the less bad in itself because it enabled that art to display its charms with so much brilliancy.

[2] The numbers in the table must be taken only as approximative, except the last four, which are borrowed from Gwilt's 'Public Buildings of London.'

	Area.	Solids.	Ratio in Decimals.	Nearest Vulgar Fractions.
	Feet.	Feet.		
Hypostyle Hall, Karnac .	94,437	46,538	·496	One-half.
Spires Cathedral . . .	56,737	12,076	·216	One-fifth.
Bourges Cathedral . .	61,590	11,091	·181	One-sixth.
Parthenon, Athens . .	23,140	4,430	·148	One-seventh.
Chartres Cathedral . .	68,261	8,886	·130	One-eighth.
Salisbury Cathedral . .	55,853	7,012	·125	One-eighth.
Paris, Notre Dame . .	64,108	7,852	·122	One-eighth.
Cologne Cathedral . . .	81,464	9,554	·117	One-ninth.
Milan Cathedral . . .	108,277	11,601	·107	One-tenth.
York Cathedral . . .	72,860	7,376	·101	One-tenth.
St. Ouen, Rouen . . .	47,107	4,637	·097	One-tenth.
Temple of Peace . . .	68,000	6,928	·101	One-tenth.
St. Peter's, Rome . . .	227,000	59,308	·261	One-fourth.
Sta. Maria, Florence . .	84,802	17,056	·201	One-fifth.
St. Paul's, London . .	84,311	14,311	·171	One-sixth.
Ste. Geneviève, Paris . .	60,287	9,269	·154	One-sixth.

At the head of the list stands the Hypostyle Hall, and next to it practically is the Parthenon, which being the only wooden-roofed building in the list, its ratio of support in proportion to the work required is nearly as great as that of the temple at Karnac. Spires only wants better details to be one of the grandest edifices in Europe, and Bourges, Paris, Chartres, and Salisbury are among the most satisfactory Gothic cathedrals we possess. St. Ouen, notwithstanding all its beauty of detail and design, fails in this one point, and is certainly deficient in solidity. Cologne and Milan would both be very much improved by greater massiveness; at York the lightness of the supports is carried so far that it never can be completed with the vaulted roof originally designed for the nave at least; and the Temple of Peace is so clever a piece of engineering, that it must always have been a failure as an architectural design.

The last four buildings have quite sufficient strength for architectural effect, but the value of this is lost from concealed construction, and because the supports are generally grouped into a few great masses, the dimensions of which cannot be estimated by the eye. A Gothic architect would have divided these masses into twice or three times the number of the piers used in these churches, and by employing ornament designed to display and accentuate the construction, would have rendered these buildings far more satisfactory than they are.

In this respect the great art of the architect consists in obtaining the greatest possible amount of unencumbered space internally, consistent in the first place with the requisite amount of permanent mechanical stability, and next with such an appearance of superfluity of

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strength as shall satisfy the mind that the building is calculated to last for ages.

VI.—Forms.

It is extremely difficult to lay down any general rules as to the forms best adapted to architectural purposes, as the value of a form in architecture depends wholly on the position in which it is placed, and the use to which it is applied; and there is in consequence no prescribed form, however ugly it may appear at present, that may not one day be found to be the very best for a given purpose, and in like manner none of those most admired which may not become absolutely offensive when used in a manner for which it is unsuited. In itself no simple form seems to have any inherent value of its own, and it is only by their combination one with another that they become effective. If, for instance, we take a series of twenty or thirty figures, placing a cube at one end as the most solid of angular, and a sphere at the other as the most perfect of round shapes, it would be easy to cut off the angles of the cube in successive gradations till it became a polygon of so many sides as to be nearly curvilinear. On the other hand by modifying the sphere through all the gradations of conic sections, it might meet the other series in the centre without there being any abrupt distinction between them. Such a series might be compared to the notes of a piano. We cannot say that any of the base or treble notes is in itself more beautiful than the others. It is only by a combination of several notes that harmony is produced, and gentle or brilliant melodies by their fading into one another, or by strongly marked contrasts. So it is with forms: the square and angular are expressive of strength and power; curves of softness and elegance; and beauty is produced by effective combination of the right-lined with the curvilinear.[1] It is always thus in nature. Rocks and all the harder substances are rough and angular, and marked by strong contrasts and deep lines. Even among trees the oak is rugged, and its branches are at right angles to its stem, or to one another. The lines of the willow are rounded, and flowing. The forms of children and women are round and full, and free from violent contrasts; those of men are abrupt, hard, and angular in proportion to the vigour and strength of their frame.

In consequence of these properties, as a general rule the square parts ought always to be placed below, where strength is wanted, and the rounded above. If, for instance, a tower is to be built, the lower story should not only be square, but should be marked by buttresses or other strong lines, and the masonry rusticated, so as to convey even a greater appearance of strength. Above this, if the square form is still retained, it may be with more elegance and less

[1] There are some admirable remarks on this subject in Mr. E. L. Garbett's 'Rudimentary Treatise on the Principles of Design in Architecture;' a work that contains more information, and more common-sense criticism on the subject, than perhaps any other in our language.

accentuation. The form may then change to an octagon, that to a polygon of sixteen sides, and then be surmounted by a circular form of any sort. These conditions are not absolute, but the reverse arrangement would be manifestly absurd. A tower with a circular base and a square upper story is what almost no art could render tolerable, while the other pleases by its innate fitness without any extraordinary effort of design.

On the other hand, round pillars are more pleasing as supports for a square architrave, not so much from any inherent fitness for the purpose as from the effect of contrast, and flat friezes preferable to curved ones of the late Roman styles from the same cause. The angular mouldings introduced among the circular shafts of a Gothic coupled pillar add immensely to the brilliancy of effect. Where everything is square and rugged, as in a Druidical trilithon, the effect may be sublime, but it cannot be elegant; where everything is rounded, as in the Choragic Monument of Lysicrates, the perfection of elegance may be attained, but never sublimity. Perfection, as usual, lies between these extremes.

VII.—Proportion.

The properties above enumerated may be characterised as the mechanical principles of design. Size, stability, construction, material, and many such, are elements at the command of the engineer or mason as well as the architect, and a building remarkable for these properties only cannot be said to rise above the lowest grade of architectural excellence. They are invaluable adjuncts in the hands of the true artist, but ought never to be the principal elements of design.

After these, the two most important resources at the command of the architect are proportion and ornament; the former enabling him to construct ornamentally, the latter to ornament his construction; both require knowledge and thought, and can only be properly applied by one thoroughly imbued with the true principles of architectural design.

As proportion, to be good, must be modified by every varying exigence of a design, it is of course impossible to lay down any general rules which shall hold good in all cases; but a few of its principles are obvious enough, and can be defined so as to enable us to judge how far they have been successfully carried out in the various buildings enumerated in the following pages.

To take first the simplest form of the proposition, let us suppose a room built, which shall be an exact cube—of say 20 feet each way—such a proportion must be bad and inartistic; and besides, the height is too great for the other dimensions, apparently because it is impossible to get far enough away to embrace the whole wall at one view, or to see even the commencement of the roof without throwing the head back and looking upwards. If the height were exaggerated to 30 or 40 feet, the disproportion would be so striking, that no art

could render it agreeable. As a general rule, a room square in plan is never pleasing. It is always better that one side should be longer than the other, so as to give a little variety to the design. Once and a half the width has often been recommended, and with every increase of length an increase of height is not only allowable, but indispensable. Some such rule as the following seems to meet most cases:—"The height of a room ought to be equal to half its width, plus the square root of its length." Thus a room 20 feet square ought to be between 14 and 15 feet high; if its length be increased to 40 feet, its height must be at least 16½; if 100, certainly not less than 20. If we proceed further, and make the height actually exceed the width, the effect is that of making it look narrow. As a general rule, and especially in all extreme cases, by adding to one dimension, we take away in appearance from the others. Thus, if we make a room 20 feet wide, and 30 or 40 feet in height, we make it narrow; if 40 wide and 20 high, we make a low room. By increasing the length, we diminish the other two dimensions.

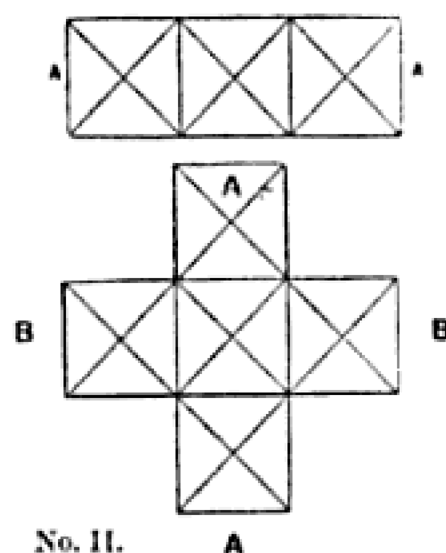
This, however, is merely speaking of plain rooms with plain walls, and an architect may be forced to construct rooms of all sorts of unpleasing dimensions, but it is here that his art comes to his aid, and he must be very little of an artist if he cannot conceal, even when unable entirely to counteract, the defects of his dimensions. A room, for instance, that is a perfect cube of 20 feet may be made to look as low as one only 15 feet high, by using a strongly marked horizontal decoration, by breaking the wall into different heights, by marking strongly the horizontal proportions, and obliterating as far as possible all vertical lines. The reverse process will make a room only 10 feet high look as lofty as one of 15.

Even the same paper (if of strongly marked lines), if pasted on the walls of two rooms exactly similar in dimensions, but with the lines vertical in the one case, in the other horizontal, will alter the apparent dimensions of them by several feet. If a room is too high, it is easy to correct this by carrying a bold cornice to the height required, and stopping there the vertical lines of the wall, and above this coving the roof, or using some device which shall mark a distinction from the walls, and the defect may become a beauty. In like manner, if a room is too long for its other dimensions, this is easily remedied either by breaks in the walls where these can be obtained, or by screens of columns across its width, or by only breaking the height of the roof. Anything which will divide the length into compartments will effect this. The width, if in excess, is easily remedied by dividing it, as the Gothic architects did, into aisles. Thus a room 50 feet wide and 30 high may easily be restored to proportion by cutting off 10 or 12 feet on each side, and lowering the roofs of the side compartments, to say 20 feet. If great stability is not required, this can be done without encumbering the floor with many points of support. The greater the number used the more easily the effect is obtained, but it can be done almost without them.

Externally it is easier to remedy defects of proportion than it is

internally. It is easy to increase the apparent height by strongly marked vertical lines, or to bring it down by the employment of an horizontal decoration. Turning, for instance, to the diagram No. I.: if the two divisions C and D were on opposite sides of a street, and not in immediate juxtaposition, it would be difficult to make any one believe that C was not taller than D, and that the windows in the latter were not farther apart and more squat than those in the first division; and the effect might easily be increased.

If the length of a building is too great, this is easily remedied by projections, or by breaking up the length into divisions. Thus, A A is a long building, but B B is a square one, or practically (owing to the perspective) less than a square in length, in any direction at right angles to the line of vision; or, in other words, to a spectator at A the building would look as if shorter in the direction of B B than in that of A A, owing to the largeness and importance of the part nearest the eye. If 100 feet in length by 50 feet high is a pleasing dimension for a certain design, and it is required that the building should be 500 feet long, it is only necessary to break it into five parts, and throw three back and two forward, or the contrary, and the proportion becomes as before.



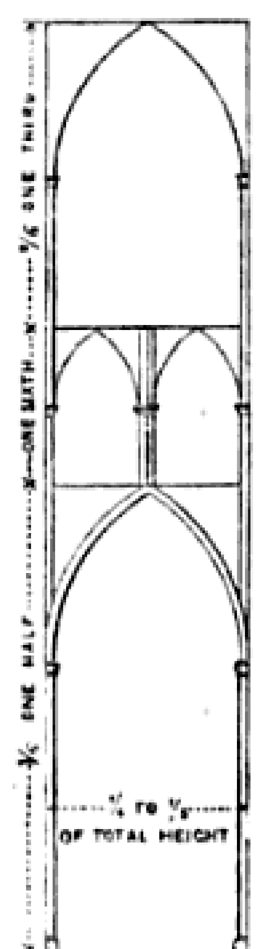
No. II.

The Egyptians hardly studied the science of proportion at all: they gained their effects by simpler and more obvious means. The Greeks were masters in this as in everything else, but they used the resources of the art with extreme sobriety — externally at least — dreading to disturb that simplicity which is so essential to sublimity in architecture. But internally, where sublimity was not attainable with the dimensions they employed, they divided the cells of their temples into three aisles, and the height into two, by placing two ranges of columns one above the other. By these means they were enabled to use such a number of small parts as to increase the apparent size most considerably, and at the same time to give greater apparent magnitude to the statue, which was the principal object for which the temple was erected.

The Romans do not seem to have troubled themselves with the science of proportion; but during the middle ages we find, from first to last, the most earnest attention paid to it. Half the beauty of the buildings of that age is owing to the successful results to which the architects carried their experiments.

The first great invention of the Gothic architects (though of Greek origin) was that of dividing the breadth of the building into three aisles, and making the central one higher and wider than those on each side. By this means height and length were obtained at the expense of width: this latter, however, is never a valuable property artistically, though it may be indispensable for the utilitarian exigences of the building. They next sought to increase still further the

height of the central aisle by dividing its sides into three equal portions (as in woodcuts No. 490 and 507), which by contrast added very much to the effect; but the monotony of this arrangement was soon apparent: besides, it was perceived that the side aisles were so low as not to come into direct comparison with the central nave. To remedy this they gradually increased its dimensions, and at last hit on something very like the following proportions. They made the height of the side aisle half that of the central (the width being also in the same proportion); the remaining portions they divided into three, making the triforium one-third, the clerestory two-thirds of the whole. Thus the three divisions are in the proportion of 1, 2, and 3, each giving value to the other, and the whole adding very considerably to all the apparent dimensions of the interior. It would have been easy to have carried the system further, and by increasing the number of the pillars longitudinally, and the number of divisions vertically, to have added considerably to even this appearance of size; but it would then have been at the expense of simplicity and grandeur; and though the building might have looked larger, the beauty of the design would have been destroyed.



No. 111.

One of the most striking exemplifications of the perfection of the Gothic architects in this department of their art is shown in their employment of towers and spires. As a general rule, placing a tall building in juxtaposition with a low one exaggerates the height of the one and the lowness of the other; and as it was by no means the object of the architects to sacrifice their churches for their towers, it required all their art to raise noble spires without doing this. In the best designs they effected it by bold buttresses below, and the moment the tower got free of the building, by changing it to an octagon, and cutting it up by pinnacles, and lastly by changing its form into that of a spire, using generally smaller parts than are found in the church. By these devices they prevented the spire from competing in any way with the church. On the contrary, a spire or group of spires gave dignity and height to the whole design, without deducting from any of its dimensions.

The city of Paris contains an instructive exemplification of these doctrines—the façade of the cathedral of Notre Dame (exclusive of the upper story of the tower) and the Arc de l'Etoile being two buildings of exactly the same dimensions; yet any one who is not aware of this fact would certainly estimate the dimensions of the cathedral as at least a third, if not a half, in excess of the other. It may be said that the arch gains in sublimity and grandeur what it loses in apparent dimensions by the simplicity of its parts. The façade, though far from one of the best in France, is by no means deficient in grandeur; and had it been as free from the trammels of utilitarianism as the arch, might easily have been made as simple and

as grand, without losing its apparent size. In the other case, by employing the principles which the Gothic architects elaborated with such pains, the apparent dimensions might have been increased without detracting from its solidity, and the arch rendered one of the sublimest buildings in the world.

St. Peter's at Rome is an example of a total neglect of these principles. Its great nave is divided into only four bays, and the proportions and ornaments of these, borrowed generally from external architecture, are so gigantic that no one can realize the true dimensions of the church but by the study of the plan; and it is not too much to assert, that had that cathedral been built in the Gothic style, during the 13th or 14th century, with the same dimensions, it would appear as if from one-third to one-half larger, and would have been the most sublime as well as the largest temple ever erected.

It would be easy to multiply examples to show to what perfection the science of proportion was carried during the existence of a true style of architecture, and how satisfactory the result is, even upon those who are not aware of the cause; and on the other hand, how miserable are the failures that result either from the ignorance or neglect of its rules. Enough, it is hoped, has been said to show that not only are the apparent proportions of a building very much under the control of an architect independent of its lineal dimensions, but also that he has it in his power so to proportion every part as to give value to all those around it, and to produce that harmony which in architecture, as well as in music or in painting, is the very essence of a true or satisfactory utterance.

VIII.—Ornament.

Architectural ornament is of two kinds, *constructive* and *decorative*. By the former is meant all those contrivances, such as capitals, brackets, vaulting shafts, and the like, which serve to explain or give expression to the construction; by the latter, such as mouldings, frets, foliage, &c., which give grace and life either to the actual constructive forms, or to the constructive decoration.

In mere building or engineering, the construction being all in all, it is left to tell its own tale in its own prosaic nakedness; but in true architecture the construction is always subordinate, and with an excess of strength it need not show itself unless it is expedient to do so; but even in an artistic point of view it always is expedient. The vault, for instance, of a Gothic cathedral might just as easily spring from a bracket or a corbel as from a shaft, and in early experiments this was often tried; but the effect was unsatisfactory, and a vaulting shaft was carried down to the capital of the pillar, and afterwards to the floor: by this means the eye was satisfied, the thin reed-like shafts being sufficient to explain that the vault rested on the solid ground, and an apparent propriety and stability were given to the whole. These shafts not being necessary constructively, the artist could make them of any form or size he thought most proper, and consequently, instead

of one he generally used three small shafts tied together at various intervals, and afterwards merely a group of the most graceful moulding, so that they satisfied not only the exigencies of ornamental construction, but became a real and essential decorative feature of the building.

In like manner it was good architecture to use flying buttresses, even where they were not essential to stability. They explained externally that the building was vaulted, and that its thrusts were abutted and stability secured. The mistake in their employment was where they became so essential to security, that the constructive necessities controlled the artistic propriety of the design, and the architect was forced to employ either a greater number, or buttresses of greater strength than he would have desired had he been able to dispense with them.

The architecture of the Greeks was so simple, that they required few artifices to explain their construction; but in their triglyphs, their mutules, the form of their cornices, and other devices, they took pains to explain, not only that these parts had originally been of wood, but that the temple still retained its wooden roof. Had they ever adopted a vault, they would have employed with it a totally different system of decoration. Having no constructive use whatever, these parts were wholly under the control of the architects, and they consequently became the beautiful things we now so much admire.

With their more complicated style the Romans introduced many new modes of constructive decoration. They were the first to employ vaulting shafts. In all the great halls of their Baths, or of their vaulted Basilicas, they applied a Corinthian pillar to the front of the pier, which really supported the vault. All these have now been removed, but without at all interfering with the stability of the vault; they were mere decorative features to explain the construction, but indispensable for that purpose. They also suggested most of the other decorative inventions of the middle ages, but their architecture never reached beyond the stage of transition, so that it was left for the Gothic architects freely to elaborate this mode of architectural effect, which they carried to an extent never dreamt of before, but to which their buildings owe at least half the beauty they possess.

The same system of course applies to dwelling-houses, and to the meanest objects of architectural art. The string-course that marks externally the floor line of the different stories is as legitimate and indispensable an ornament as a vaulting shaft, and it would also be well that the windows should be grouped so as to indicate the size of the rooms, and at least a plain space left where a partition wall abuts, or better still a pilaster or buttress, or line of some sort, ought to mark externally that feature of internal construction.

The cornice is as indispensable a termination of the wall as the capital is of a pillar; and besides, it not only suggests an appropriate support for the roof, but also eaves to throw the rain off the wall. The same is true with regard to pediments or caps over windows: they suggest a means of protecting an opening from the wet; and porches

over doorways are equally obvious contrivances. Every thing, in short, which is actually constructive, or which suggests what was or may be a constructive expedient, is a legitimate object of decoration, and affords the architect unlimited scope for the display of taste and skill, without going out of his way to seek it.

The difficulty in applying ornaments borrowed from other styles is, that although they all suggest construction, it is not *the* construction of the building to which they are applied. To use Pugin's clever antithesis, "they are constructed ornament, not ornamented construction," and as such can never satisfy the mind. However beautiful in themselves, they are out of place, there is no real or apparent use for their being there; and in an art so essentially founded on utilitarian principles and common sense as architecture is, any offence against constructive propriety is utterly intolerable.

The other class of decorative ornaments are forms invented for the purpose, either mere lithic forms, or copied from the vegetable kingdom, and applied so as to give elegance or brilliancy to the constructive decoration just described.

The first and most obvious of these are mere mouldings, known to architects as Scotias, Cavettos, Ogees, Toruses, Rolls, &c.—curves which, used in various proportions either horizontally or vertically, produce, when artistically combined, the most pleasing effect.

In conjunction with these, it is usual to employ a purely conventional class of ornament, such as frets, scrolls, or those known as the bead and reel, or egg and dart mouldings; or in Gothic architecture the billet or dog-tooth, or all the thousand and one forms that were invented during the middle ages.

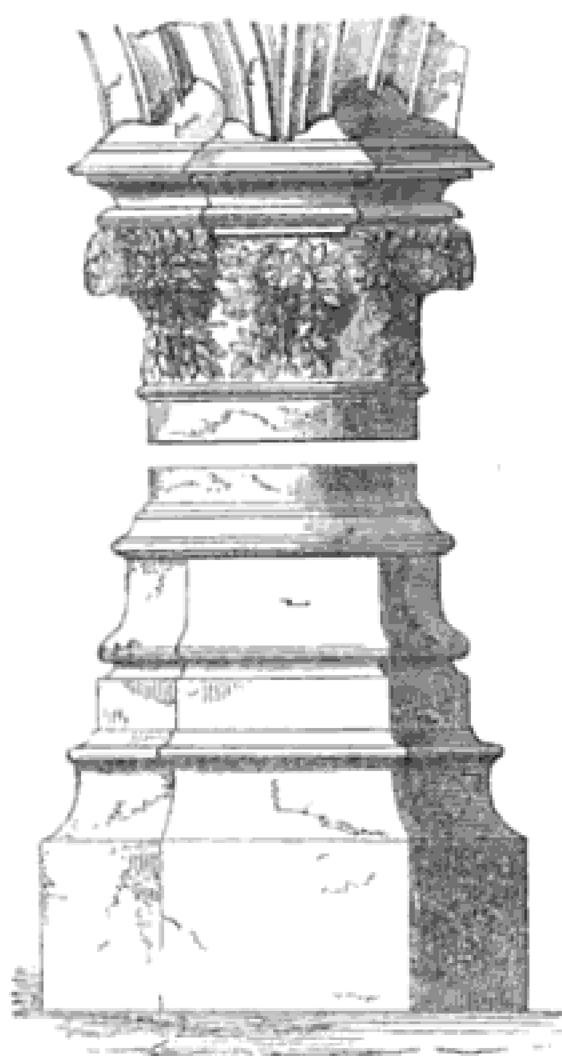
In certain styles of art, vegetable forms are employed even more frequently than those last described. Among these, perhaps the most beautiful and perfect ever invented was that known as the honeysuckle ornament, which the Greeks borrowed from the Assyrians, but made so peculiarly their own. It has all the conventional character of a purely lithic, with all the grace of a vegetable form; and as used with the Ionic order, is more nearly perfect than any other known.

The Romans made a step further towards a more direct imitation of nature in their employment of the acanthus leaf. As applied to a capital, or where the constructive form of the bell beneath it is still distinctly seen, it is unobjectionable; but when the leaf supports the volute at the angles of the abacus, it is on the very verge of good taste.

With their disregard of precedent, and untrammelled wildness of imagination, the Gothic architects tried every form of vegetable ornament, from the purest conventionalism, where the vegetable form can hardly be recognised, to the most literal imitation of nature.

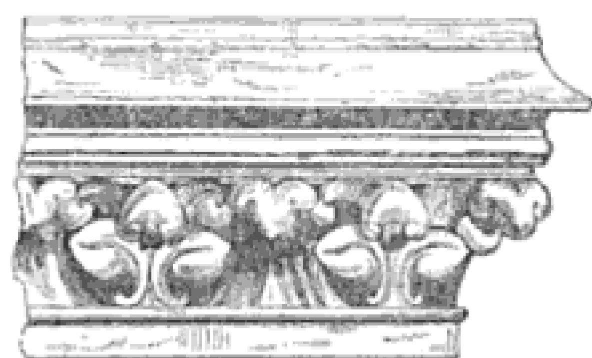
By employing the former an architect can never sin against good taste, though he may miss many beauties; with the latter class of ornament he is always in danger of offence, and few have ever employed it without falling into mistakes. In the first place, because it is impossible to imitate perfectly foliage and flowers in stone; and

secondly, because if the pliant forms of plants are made to support, or do the work of, hard stone, the incongruity is immediately apparent, and the more perfect the imitation the greater the mistake.


No. IV.

In the instance (woodcut No. IV.), any amount of literal imitation that the sculptor thought proper may be indulged in, because in it the stone construction is so apparent everywhere, that the vegetable form is the merest supplement conceivable; or in a hollow moulding round a doorway, a vine may be sculptured with any degree of imitation that can be employed; for as it has no more work to do than the object represented would have in the same situation, it is a mere adjunct, a statue of a plant placed in a niche, as we might use the statue of a man: but if in the woodcut (No. V.) imitations of real leaves were used to support the upper moulding, the effect would not be so satisfactory; indeed it is questionable if in both these last examples a little more conventionality would not be desirable.

In too many instances, even in the best Gothic architecture, the construction is so overlaid by imitative vegetable forms as to be concealed, and the work is apparently done by leaves or twigs, but in the earliest and purest style this is almost never the case. As a general rule it may be asserted that the best lithic ornaments are those which approach nearest to the grace and pliancy of plants, and that the best vegetable forms are those which most resemble the regularity and symmetry of those which are purely conventional.


No. V.

Although the Greeks in one or two instances employed human figures to support entablatures or beams, the good taste of such an arrangement is more than questionable. They borrowed it, with the Ionic order, from the Assyrians, with whom the employment of caryatides and animal forms was the rule, not the exception, in contradistinction from the Egyptians, who never adopted this practice.[1] Even the Romans avoided this mistake, and the Gothic architects also as a general rule kept quite clear of it. Whenever they did employ ornamented figures for architectural purposes, they were either mon-

[1] The Isis-headed Typhonian capitals cannot be quoted as an exception to this rule: they are affixes, and never appear to be doing the work of the pillar.

sters, as in gargoyles, or griffons; or sometimes in a spirit of caricature they used dwarfs or deformities of various sorts; but their sculpture, properly so called, was always provided with a niche or pedestal, where it might have been placed after the building was complete, or from which it might be removed without interfering with the architecture.

No ornament is so essential or so important to true architecture as sculpture, whether employed as single figures, or as bas-reliefs, or on friezes; but wherever it is introduced, it ought to be in niches or panels, or places where pains have been taken expressly to provide that the construction shall not interfere with them, and never where they seem to have anything to do either directly or indirectly with the construction.

IX.—Colour.

Colour is one of the most invaluable elements placed at the command of the architect to enable him to give grace or finish to his designs. From its nature it is of course only an accessory, or mere ornament; but there is nothing that enables him to express his meaning so cheaply and easily, and at the same time with such brilliancy and effect. For an interior it is absolutely indispensable; and no apartment can be said to be complete till it has received its finishing touches from the hand of the painter. Whether exteriors ought or ought not to be similarly treated admits of more doubt.

Internally the architect has complete command of the situation; he can suit his design to his colours, or his colours to his design. Walls, roof, floor, furniture, are all at his command, and he can shut out any discordant element that would interfere with the desired effect.

Externally this is seldom if ever the case. A façade that looks brilliant and well in noonday sun may be utterly out of harmony with a cold gray sky, or with the warm glow of a setting sun full upon it; and unless all other buildings and objects are toned into harmony with it, the effect can seldom be harmonious.

There can now be no reasonable doubt that the Greeks painted their temples both internally and externally, but as a general rule they always placed them on heights where they could only be seen relieved against the sky; and they could depend on an atmosphere of uniform, unvarying brightness. Had their temples been placed in groves or valleys, they would probably have given up the attempt, and certainly never would have ventured upon it in such a climate as ours.

Except in such countries as Egypt and Greece, it must always be a mistake to apply colour by merely painting the surface of the building externally; but there are other modes of effecting this which are perfectly legitimate. Coloured ornaments may be inlaid in the stone of the wall without interfering with the construction, and so placed be far more effective and brilliant than the same ornaments would be if carved in relief. Again, string-courses and mouldings of various

coloured stones or marbles might be employed with far better effect than can be obtained by depth of cutting and boldness of projection. Such a mode of decoration can only be partial; if the whole building is to be coloured, it must be done constructively, or the effect will never be satisfactory.

In the middle ages the Italians carried this mode of decoration to a considerable extent; but in almost all instances it is so evidently a veneer overlying the construction that it fails to please; and a decoration which internally, where construction is of less importance, would excite general admiration, is without meaning on the outside of the same wall.

At the same time it is easy to conceive how polychromy might be carried out successfully, if, for instance, a building were erected, the pillars of which were of red granite or porphyry, the cornices or string-courses of dark coloured marbles, and the plain surfaces of lighter kinds, or even of stone. A design so carried out would be infinitely more effective than a similar one executed in materials of only one colour, and depending for relief only on varying shadows of daylight. There is in fact just the same difficulty in lighting monochromatic buildings as there is with sculpture. A coloured painting, on the other hand, requires merely sufficient light, and with that expresses its form and meaning far more clearly and easily than when only one colour is employed. The task, however, is difficult; so much so, indeed, that there is hardly one single instance known of a complete polychromatic design being successfully carried out anywhere, though often attempted. The other mode of merely inlaying the ornaments in colour instead of relieving them by carving as seldom fails.

Notwithstanding this an architect ought never to neglect to select the colour of his materials with reference to the situation in which his building is to stand. A red brick building may look remarkably well if nestling among green trees, while the same building would be hideous if situated on a sandy plain and relieved only by the warm glow of a setting sun. A building of white stone or white brick is as inappropriate among the trees, and may look bright and cheerful in the other situation.

In towns colours might be used of very great brilliancy, and if done constructively, there could be no greater improvement to our architecture; but to do so is so difficult that it may be questioned whether it will be ever successfully accomplished.

With regard to interiors there can be no doubt. All architects in all countries of the world resorted to this expedient to harmonise and to give brilliancy to their compositions, and depended on it for their most important effects.

The Gothic architects carried this a step further by the introduction of painted glass, which was a mode of colouring more brilliant than had been ever before attempted. They went beyond all previous efforts, inasmuch as they coloured not only the objects themselves, but also the light in which they were seen. So enamoured were they of its beauties, that they sacrificed much of the constructive propriety of their build-

ings to admit of its display, and paid more attention to it than to any other part of their designs. Perhaps they carried this predilection a little beyond the limits of good taste; but colour is in itself so exquisite a thing, and so admirable a vehicle for the expression of architectural as well as of æsthetic beauty, that it is difficult to find fault even with the abuse of what is in its essence so legitimate and so beautiful.

X.—Uniformity.

Considerable confusion has been introduced into the reasoning on the subject of architectural uniformity from the assumption that the two great schools of art, the classical and the mediæval, adopted contrary conclusions regarding it, formality being supposed to be the characteristic of the former, irregularity of the latter. The Greeks, of course, when building a temple or monument, which was only one room or one object, made it exactly symmetrical in all its parts, but so did the Gothic architects when building a church or chapel or hall, or any single object: in ninety-nine instances out of a hundred, a line drawn down the centre divides it into two equal and symmetrical halves; and when an exception to this occurs, there is some obvious motive for it.

But where several buildings of different classes were to be grouped, or even two temples placed near one another, the Greeks took the utmost care to prevent their appearing parts of one design or one whole; and when, as in the instance of the Erechtheium,[1] three temples are placed together, no Gothic architect ever took such pains to secure for each its separate individuality as the Grecian architect did. What has given rise to the error is, that all the smaller objects of Grecian art have perished, leaving us only the great monuments without their adjuncts.

If we can conceive the task assigned to a Grecian architect of erecting a building like one of our collegiate institutions, he would without doubt have distinguished the chapel from the refectory, and that from the library, and he would have made them of a totally different design from the principal's lodge, or the chambers of the fellows and students; but it is more than probable that, while carefully distinguishing every part from the other, he would have arranged them with some regard to symmetry, placing the chapel in the centre, the library and refectory as pendants to one another, though dissimilar, and the residences so as to connect and fill up the whole design. The truth seems to be that no great amount of dignity can be obtained without a certain degree of regularity; and there can be little doubt that artistically it is better that mere utilitarian convenience should give way to the exigences of architectural design than that the latter should be constrained to yield to the mere prosaic requirements of the building. The chance medley manner in which many such buildings were grouped together in the middle ages tells the story as clearly, and may be productive of great picturesqueness of effect, but not of the same nobility as might be

[1] See woodcuts 223, 234, and 235.

obtained by more regularity, and the highest class of design will never be reached by these means.

It is not difficult to discover, at least to a certain extent, the cause of this, as no number of separate units will suffice to make one whole. A number of pebbles will not make a great stone, nor a number of rose-bushes an oak; nor will any number of dwarfs make up a giant. To obtain a great whole there must be unity, to which all the parts must contribute, or they will remain separate particles. The effect of unity is materially heightened when to it is added uniformity: the mind then instantly and easily grasps the whole, and knows it to be one, perceiving the ruling idea that governed and moulded the whole together. It seems only to be by the introduction of uniformity that sufficient simplicity for greatness can be obtained, and the evidence of design made so manifest that the mind is satisfied that the building is no mere accumulation of separate objects, but the production of a master mind.

In a palace irregularity seems unpardonable. The architect has there practically unlimited command of funds and of his arrangements, and he can easily design his suites of rooms so as to produce any amount of uniformity he may require: the different heights of the different stories and the amount of ornament on them, with the employment of wings for offices, is sufficient to mark the various purposes of the various parts; but where the system is carried so far in great public buildings, that great halls, libraries, committee-rooms, and subordinate residences are all squeezed into one perfectly uniform design, the building loses all meaning, and fails from the opposite error.

The rule seems to be that every building or every part of one ought most distinctly and clearly to express not only its constructive exigences, but also the uses for which it is destined; on the other hand, that mere use ought, in all instances where architectural effect is aimed at, to give way to artistic requirements; and an architect is consequently justified, in so far as his means will admit, in producing that amount of uniformity and regularity which seems indispensable for anything like grandeur of effect. In villas and small buildings all we look for is picturesqueness and meaning combined with elegance; but in larger and more monumental erections we expect something more; and this can hardly be obtained without the introduction of some new element which shall tell, in the first place, that artistic excellence was the ruling idea of the design, and in the next place give it that perfect balance and symmetry which seems to be as inherent a quality of the works of nature as of true art.

XI.—Imitation of Nature.

The subject of the imitation of Nature is one intimately connected with those mooted in the preceding paragraphs, and regarding which considerable misunderstanding seems to prevail. It is generally assumed that in architecture we ought to copy natural objects as we see

them, whereas the truth seems to be that we ought always to copy the processes, never the forms of Nature. The error apparently has arisen from confounding together the imitative arts of painting and sculpture with the constructive art of architecture. The former have no other mode of expression than by copying, more or less literally, the forms of Nature; the latter, as explained above, depends wholly on a different class of elements for its effect; but at the same time no architect can either study too intently, or copy too closely, the methods and processes by which Nature accomplishes her ends; and the most perfect building will be that in which these have been most closely and literally followed.

To take one prominent instance:—So far as we can judge, the human body is the most perfect of Nature's works; in it the groundwork or skeleton is never seen, and though it can hardly be said to be anywhere concealed, it is only displayed at the joints or more prominent points of support, where the action of the frame would be otherwise unintelligible. The muscles are disposed not only where they are most useful, but so as to form groups gracefully rounded in outline. The softness and elegance of these are further aided by the deposition of adipose matter, and the whole is covered with a skin which by its beautiful texture conceals the more utilitarian construction of the internal parts. In the trunk of the body the viscera are disposed wholly without symmetry or reference to beauty of any sort—the heart on one side, the liver on the other, and the other parts exactly in those positions and in those forms by which they may most directly and easily perform the essential functions for which they were designed. But the whole is concealed in a perfectly symmetrical sheath of the most exquisitely beautiful outline. It may be safely asserted that a building is beautiful and perfect exactly in the ratio in which the same amount of concealment and the same amount of display of construction is preserved, where the same symmetry is shown as between the right and left sides of the human body—the same difference as between the legs and arms, where the parts are applied to different purposes, to adorn without interfering with what is useful, and where the same amount of ornament is added. In short there is no principle involved in the structure of man which may not be taken as the most absolute standard of excellence in architecture. The same is true of all other objects of Nature. If we could find Nature making trees like stones, or animals like trees, or birds like fishes, or fishes like mammalia, or using any parts taken from one kingdom for purposes belonging to another, it would then be perfectly legitimate for us to use man's stature as the modulus for a Doric, or woman's as that of an Ionic column—to build cathedrals like groves, and make windows like leaves, or to estimate their beauty by their resemblance to such objects; but all such comparisons proceed on an entire mistake of what imitation of Nature really means.

It is the merest and most absolute negation of reason to apply to one purpose things that were designed for another, or to imitate them when they have no appropriateness; but it is our highest privilege to

understand the processes of Nature. To apply these to our own wants and purposes is the highest stretch of human intellect and the perfection of human wisdom.

So instinctively, but so literally, has this correct process of imitating Nature been followed in all true styles of architecture, that we can always reason regarding them as we do with regard to natural objects. Thus, if an architect finds in any quarter of the globe a Doric or Corinthian capital with a few traces of a foundation, he at once can tell the age of the temple or building to which it belonged. He knows who the people were who erected it, to what purpose it was dedicated, and proceeds at once to restore its porticos, and without much uncertainty can reproduce the whole fabric. Or if he finds a few Gothic bases in situ, with a few mouldings or frusta of columns, by the same process he traces the age, the size, the purposes of the building before him. A Cuvier or an Owen can restore the form and predicate the habits of an extinct animal from a few fragments of bone, or even from a print of a foot. In the same manner an architect may, from a few fragments of a building, if of a true style of architecture, restore the whole of its pristine forms, and with almost the same amount of certainty. This arises wholly because the architects of those days had correct ideas of the true meaning of the expression and imitation of Nature. They added nothing to their buildings which was not essential; there was no detail which had not its use, and no ornament which was not an elaboration or heightening of some essential part, and hence it is that a true building is as like to a work of Nature as any production of man's hands can be to the creations of his Maker.

XII.—Ethnography.

It is the circumstance mentioned in the last section of the perfectly truthful imitation of Nature in all true styles of art that gives such a charm to the study, and raises the elaboration of these principles to the dignity of a science. It leads also to one further conclusion: when men expressed their knowledge so truthfully, they expressed also their feelings, and with their feelings their nationality. It is thus that, looking on an ancient building, we can not only tell in what state of civilization its builders lived, or how far they were advanced in the arts, but we can almost certainly say also to what race they belonged, and what their affinities were with the other races or tribes of mankind. So far as my knowledge extends, I do not know a single exception to this rule; and, as far as I can judge, I believe that architecture is in all instances as correct a test of race as language, and one far more easily applied and understood. Languages alter and become mixed, and when a change has once been established it is extremely difficult to follow it back to its origin, and unravel the elements which compose it; but a building once erected stands unchanged to testify to the time when it was built, and the feelings and motives of its builders remain stamped indelibly upon it as long as it lasts.

Owing to the confusion of styles which has prevailed since the

Renaissance, this branch of the subject has been little understood or followed out; but it is the characteristic which lends to the study of ancient architecture its highest value, and which, when properly understood, will elevate what has been considered as a merely instructive pastime into the dignity of an important science.

XIII.—New Style.

There is still one other point of view from which it is necessary to look at this question of architectural design before any just conclusion can be arrived at regarding it. It is in fact necessary to answer two questions, nearly as often asked as those proposed at the beginning of this Introduction. "Can we ever again have a new and original style of architecture?"—"Can any one invent a new style?" Reasoning from experience alone, it is easy to answer these questions. No individual has, so far as we know, ever invented a new style in any part of the world. No one can even be named who during the prevalence of a true style of art materially advanced its progress, or by his individual exertion did much to help it forward; and we may safely answer, that as this has never happened before, it is hardly probable that it will ever occur now.

If this one question must be answered in the negative, the other may as certainly be answered in the affirmative, inasmuch as no nation in any age or in any part of the globe has failed to invent for itself a true and appropriate style of architecture whenever it chose to set about it in the right way, and there certainly can be no great difficulty in our doing now what has been so often done before, if we only set to work in a proper spirit, and are prepared to follow the same process which others have followed to obtain this result.

What that process is, may perhaps be best explained by an example; and as one of a building character, though totally distinct, let us take ship-building.

Let us take a series of ships, beginning with those in which William the Conqueror invaded our shores, or the fleet with which Edward III. crossed over to France. Next take the vessels which transported Henry VIII. to his meeting with Francis I., and then pass on to the time of the Spanish Armada, and the sea fights of Van Tromp and De Ruyter, and on to the times of William III., and then through the familiar examples till we come to such ships as the Wellington and Marlborough, now afloat. In all this long list of examples we have a gradual, steady, forward progress, without one check or break. Each century is in advance of the one before it, and the result is as near perfection as we can well conceive.

But if we ask who effected these improvements, or who invented any part of the last-named wonderful fabrics, we must search deep indeed into the annals of the navy to find out. But no one has inquired, and no one cares to know, for the simple reason that, like architecture in the middle ages, it is a true and living art, and the improvements were not effected by individuals, but by all classes,

owners, sailors, shipwrights, and men of science, all working together through centuries, each lending the aid of his experience or his reasoning.

If we place alongside of this series of ships a list of churches or cathedrals, commencing with Charlemagne and ending with Charles V., we find the same steady and assured progress obtained by the same identical means. In this instance, princes, priests, masons, and mathematicians, all worked steadily together for the whole period, striving to obtain a well-defined result.

In the ship the most suitable materials only are employed in every part, and neither below nor aloft is there one single timber nor spar nor one rope which is superfluous. Nor in the cathedral was ever any material used that was not believed to be the most suitable for its purpose; nor one form of construction which did not seem the best to those who employed it; nor any detail added which did not seem necessary for the purpose it was put there to express; and the consequence is, that we can look on and contemplate both with the same unmitigated satisfaction.

The one point where this comparison seems to halt is, that ship-building never became a purely fine art, which architecture really is. The difference is only one of aim, which it would be as easy to apply to the one art as it has been to the other. Had architecture never progressed beyond its one strictly legitimate object of house building, it never would have been more near a fine art than merchant ship-building, and palaces would only have been magnified dwelling-places. Castles and men-of-war advanced both one stage further towards a fine art. Size and power were impressed on both, and at this stage they stand precisely equal to one another. Here ship-building halted, and has not progressed beyond, while architecture was invested with a higher aim. In all ages men have sought to erect houses more dignified and stately than those meant for themselves. They attempted the erection of dwelling-places for their gods, or temples worthy of the worship of Supreme Beings; and it was only when this strictly useful art threw aside all shadow of utilitarianism, and launched boldly forth in search of the beautiful and the sublime, that it became a truly fine art, and took the elevated position which it now holds above all other useful arts. It would have been easy to supply the same motive to ship-building. If we could imagine any nation ever to construct ships of God, or to worship on the bosom of the ocean, ships might easily be made such objects of beauty that the cathedral could hardly compete with them.

It is not, however, only in architecture or in ship-building that this process is essential, but the progress of every art and every science that is worthy of the name is owing to the same simple process of the aggregation of experiences; whether we look to metallurgy or mechanics, cotton-spinning or coining, their perfection is owing to the same cause. So also the sciences—astronomy, chemistry, geology—are all cultivated by the same means. When the art or science is new, great men stand forth and make great strides; but when once it

reaches maturity, and becomes the property of the nation, the individual is lost in the mass, and a thousand inferior brains follow out steadily and surely the path which the one great intellect pointed out, but which no single mind, however great, could carry to its legitimate conclusion.

So far as any reason or experience yet known can be applied to this subject, it seems clear that no art or science ever has been or can be now advanced by going backwards, and copying earlier forms, or those applicable to other times or other circumstances; and that progress towards perfection is only to be obtained by the united efforts of many steadily pursuing a well-defined object. Wherever this is done, success seems to be inevitable, or at all events every age is perfectly satisfied with its own productions. Where forward progress is the law, it is certain that the next age will surpass the present; but the living cannot conceive anything more perfect, or they would apply it. Everything in any true art is thoroughly up to the highest standard of its period, and instead of the dissatisfied uncertainty in which we are wandering in all matters concerning architecture, we should be exulting in our own productions, and proud in leaving to our posterity the progress we have made, feeling assured that we have paved the way for them to advance to a still higher standard of perfection.

'As soon as the public are aware of the importance of this rule, and of its applicability to architecture, a new style must be the inevitable result; and if our civilization is what we believe it to be, that style will not only be perfectly suited to all our wants and desires, but also more beautiful and more perfect than any that has ever existed before.

XIV.—Prospects.

If we turn from these speculations to ask what prospect there is of the public appreciating correctly this view of the matter, or setting earnestly about carrying it out, the answer can hardly be deemed satisfactory.

The clergy, not only in England but on the continent of Europe, have arrived at the conclusion that the Gothic style is the one most suited for church-building purposes; and this has now become so established a point that no deviation from Gothic models is tolerated. Any architect who would attempt originality in plan, or introduce even a new detail or moulding, is immediately set down as ignorant of his profession, and the experiment is not repeated. Every year that we continue in this path, and that our knowledge of the style becomes greater, the heavier will our chains become, and anything like originality or progress in this important branch of architecture more absolutely impossible.

The study of the classical languages, to which so much importance is attached in our public schools, and in our own and most foreign universities, tended at one time in another way to withdraw attention from the formation of a true style of architecture by fixing it exclusively on Greek and Roman models. The Renaissance in the 15th century

arose much more from admiration of classic literature than from any feeling for the remains of buildings which had been neglected for centuries, and were far surpassed by those which succeeded them. The same feelings perpetuated by early association are the great cause of the hold that classic art still has on the educated classes in Europe.

In clubs and mixed societies the style usually adopted is the Italian, out of which progress may come if common sense be allowed to prevail over classical precedents, or the contrary if the reactionary element be allowed to obtain the preference.

Below these there is another class of men who have but little sympathy with Greece or Rome, and still less with mediæval monkery or feudalism, but who in their own strong sense seem inclined to take a more reasonable view of the matter, and these men are now erecting at Manchester and in other cities of the North a series of warehouses and other buildings designed wholly with reference to their uses, and ornamented only in their construction, and which consequently are—as far as their utilitarian purposes will allow—as satisfactory as anything of former days. Eastward of Temple Bar there are many buildings arising on the same system, and with a little more experience they promise to be as satisfactory as those in the North.

In civil engineering, the lowest and most prosaic branch of architectural art, our progress has been brilliant and rapid. Of this no better example can be given than the four great bridges erected over the Thames. Those of Westminster, Blackfriars, Waterloo, and London were erected at nearly equal intervals during one century, and the steady progress which they exhibit is greater than that of almost any similar branch of art during any equal period of time.

In this department our progress is so undeniable that we saw old London Bridge removed without regret, though it was a work of the same age and of the same men who built all our greatest and best cathedrals, and in its own line was quite as perfect and as beautiful as they. But it had outlived its age, and we knew we could replace it by a better—so its destruction was inevitable; and if we had made the same progress in the higher that we have in the lower branches of the building art, we should see a Gothic cathedral pulled down with the same indifference, content to know that we could easily replace it by one far nobler and more worthy of our age and intelligence. No architect during the middle ages ever hesitated to pull down any part of a cathedral that was old and going to decay, and to replace it with something in the style of the day, however incongruous that might be; and if we were progressing as they were, we should have as little compunction in following the same course.

In the confusion of ideas and of styles which now prevails, it is satisfactory to be able to contemplate, in the Crystal Palace at Sydenham, at least one great building carried out wholly in the principles of Gothic or of any true style of art. No material is used in it which is not the best for its purpose, no constructive expedient employed which was not absolutely essential, and it depends wholly for its effect on the arrangement of its parts and the display of its construction. So

essentially is its principle the same which, as we have seen, animated Gothic architecture, that we hardly know even now how much of the design belongs to Sir Joseph Paxton, how much to the contractors, or how much to the subordinate officers employed by the Company. Here, as in a cathedral, every man was set to work in that department which it was supposed he was best qualified to superintend. There was room for every art and for every intellect, and clashing and interference were impossible. This, however, is only the second of the series. A third would probably as far surpass it as it is beyond the first; and if the series were carried to a hundred, with more leisure and a higher aim, we might perhaps learn to despise many things we now so servilely copy, and might create a style surpassing anything that ever went before. We have certainly more wealth, more constructive skill, and more knowledge than our forefathers; and living in the same climate, and being of the same race, there seems no insuperable difficulty in our doing at least as much if not more than they accomplished.

Art, however, will not be regenerated by buildings so ephemeral as Crystal Palaces, or so prosaic as Manchester warehouses, nor by anything so essentially utilitarian as the works of our engineers. The one hope is that, having commenced at the bottom, the true system may extend upwards, and come at last to be applied to our palaces and churches, and the whole nation lend its aid to work out the great problem. Whenever its significance is rightly appreciated by the public, this result seems inevitable; and with the means of diffusing knowledge which we now possess, we may perhaps be permitted to fancy that the dawn is at hand, and that after our long wanderings in the dark, daylight may again enlighten our path and gladden our hearts with the vision of brighter and better things in art than a false system has hitherto enabled us to attain.

PART I.

HANDBOOK OF ARCHITECTURE.

BOOK I.

INDIA.

CHAPTER I.

INTRODUCTORY.

The countries commonly described under the general name of India form in themselves a group completely detached from the other kingdoms of the ancient world, and differ entirely from them in all their most striking peculiarities. We may therefore consider them separately from the rest, and as a subject complete in itself. India was undoubtedly one of the earliest civilised countries on the face of the globe. This fact is proved by her sacred writings which still remain to us, the Vedas, which were arranged in their present form at a very early period of the world's history. We also possess the laws of Menu, which are believed to have been compiled at about the same time as those of Lycurgus. These, together with such fragments of her history as can be extracted from the strangely falsified chronology of the Indian historians, testify that the plains of this great country were at a very early period covered with regular communities of civilised men. These actual records are strongly confirmed by the very fables and traditions of the West, which all point to India as the land of wealth and learning—the El Dorado of the ancient world. It was to India that the mythic heroes of ancient Greece, Hercules and Bacchus, bent their steps; and, from the time of the scarcely less fabulous Semiramis to that of Cyrus, it was the desire to reach her long-coveted treasures that called forth the mightiest efforts of the great central monarchies of Asia. Darius and Alexander followed the same path of ambition with better success, but even they could never penetrate beyond her boundaries, never saw hér sacred streams, nor the fertile plains they watered.

Persia and Parthia formed a barrier which prevented Rome from ever attempting to seize by conquest the wealth which, reaching her by the more peaceful channels of commerce, formed the staple of that till then unheard-of accumulation of luxury and riches which dazzled

the ancient world, and still excites the incredulity of the present age. It was the memory of that Indian contribution to Rome's magnificence that formed the dream of the dark ages, and sent Columbus to seek her fabled treasures in the distant west, and enabled Vasco da Gama to brave the terrors of the stormy Cape.

But while the contemporary nations have left behind them architectural monuments, there are no such traces remaining of the ancient greatness of India. What we have are entirely the work of a later age than that of which we are now speaking. The existing remains of these later times are on the whole very complete, and in good preservation. Notwithstanding this, the investigation of them is attended with much difficulty, arising from the indifference with which the whole subject is regarded, almost universally, by the Anglo-Saxon sojourners in the country. In all the older British settlements all architectural remains have nearly disappeared; and very little has been done to elucidate those which remain.

In any attempt to understand either the history or the arts of India, the first and most important point to bear in mind is, that the mass of the population consists, and always has consisted, in historical times at least, of two races of men differing from one another as widely as any two races on the face of the globe. The first, or Tamul race, still inhabits the whole of the southern part of the peninsula, and exists as a substratum to the intruding races up to the foot of the Himalaya. This race, so far as we know, is aboriginal. So imperfect is their literature, that we know nothing of their earlier history; and so little has it been studied, that we have not even now traced their affinities among the other races of mankind; while, either because they were not builders, or because the climate or the unsettled state of society has been unfavourable to the preservation of the monuments, we have now nothing from which we can judge how early they were settled, or to what extent they were civilised.

The other race came into India from the West at a very remote epoch. Its first settlement was at Taneswar on the watershed between the Indus and the Ganges. In process of time they extended their settlements eastward. Hastinapoora became their next capital, to be supplanted by Delhi; then Ayodia (Oude), which in like manner was superseded by Canouge. Then Rajagriha on the hills near Gya became a capital city, till about three centuries before Christ they ventured down to Palibothra, the modern Patna, on the banks of the Ganges. Next came Gaur and Dacca; Nuddya; and lastly Calcutta, in which the wealth and power of that great valley is now centered.

Modern researches have traced this intruding race to its origin; the Persians were of the same stock as they were; so were the races who supplanted the Pelasgi in Greece; so were the Romans; so also were all those races of barbarians now designated as the Indo-Germanic, or Arian tribes, who colonized Europe about or before the Christian era, and to whom we belong. None of the Arian races seem originally to have been builders; at least they certainly were not temple-builders. This was owing to the very spirit of their religion. They would have

thought it impious to rear with human hands a house for the one Great Spirit of the universe, whose manifestations were nothing meaner than the sun and planets, and whose emblem on earth was fire, the purest and most subtle of visible things. Accordingly the Persians built no temples. Even when Darius had learnt from more western nations some notions of architectural magnificence, the buildings which were raised in Persia were palaces rather than temples. The Grecian temples were borrowed from Egypt; the Roman from Greece and Etruria; and our own from Rome. The Teutonic tribes, when first known to the Romans, " thought that to confine the gods within walls, or to represent them in the image of man, was unworthy of the greatness of heavenly beings."[1]

Throughout the Vedas there is no allusion to temples nor to images, nor indeed to any public form of worship. Every man stood forth in the presence of his God, and without intercessors offered up his prayers with the prescribed forms, or gave utterance to those hymns of praise which he thought were acceptable; but always feeling himself to be in the immediate presence of the Deity, and appealing directly to His mercy or supplicating His favour.

Among such a people it would of course be in vain to look for any monuments of importance;[2] and while these Arian races remained unmixed with the other inhabitants of India, and retained their pure Vedantic faith, they left, so far as we now know, not one single monument to tell of their existence.[3]

In the seventh century before the Christian era, a prophet, Sakya Muni, was born in India, the result of whose teaching was the introduction of the Buddhist religion into that country; and consequent on this change was the elaboration of a style of architecture, the most ancient as well as the most interesting of those whose monuments are found scattered over the plains of India.

Although much has lately been done to clear up the obscurity that has hitherto hung over the history of the introduction of Buddhism into India, much still remains to be done before the story of its founder can be said to be placed on a satisfactory basis. It is recorded of him that he was one of the last lineal descendants of that long line of kings called the Solar race, who for more than two thousand years had held supreme sway in the Valley of the Ganges, but who, at the time of the birth of Sakya Muni, had dwindled before the rising influence of the Lunar races, from the imperial glories of the kingdom of Oude, to the position of petty princes of a small and undistinguished state near the foot of the Himalaya. Here it was that Sakya was born in the year 623 B.C., and spent the earlier years of his life in the usual occupations

[1] Tacit. Germ.

[2] Perhaps this absence of old remains can be illustrated by a very analogous case. In Burmah, a country of comparatively modern settlement, no buildings, with the exception of temples, are allowed by law to be constructed of brick or stone. Consequently there are only a few pagodas in that country which can last more than a very limited number of years. See book i, ch. iv.

[3] A curious negative corroboration of this exists in the fact that neither Megasthenes nor any Greek writer ever alludes to any temple or remarkable building as existing in India, which could hardly have been the case had any existed.

and amusements of those of his rank. At the age of 35, he—to use the language of his followers—attained to Buddhahood, and spent the remaining 45 years of his life wandering through the various countries of India, promulgating those doctrines which subsequently obtained such universal acceptance in all the countries of Eastern Asia.

One or two points in the doctrines of Buddhism will be necessary to be borne in mind. The present Buddha—Sakya Muni, or Sinha as he is generally called—is held to be only the fourth of the great Buddhas. His three predecessors, Kakusanda, Konagamma, and Kasyapa, are supposed to have existed in extremely remote ages. Their history, as might be expected, is a mere mass of fables and absurdities.

The Buddhists expect a fifth manifestation of the Deity in the person of Maitri Buddha, who is supposed to be now going through the innumerable transmigrations necessary to the attainment of Buddhahood: these transmigrations being an essential part of the whole system. We shall find, in speaking of Thibet, a curious extension of the belief. There the divine soul is held to pass immediately from one Delai Lama to his successor, so that they are never without a living manifestation of the lower class of Buddhas, which they believe their great Lamas to be.

It is still a disputed point among the learned whether Sakya Muni was the original inventor of this religion, or even its first introducer into India. There are many and strong reasons for supposing that he cannot even aspire to this last distinction, for there are certainly many traces of the existence of at least a similar faith, in that country, before his time; though he no doubt gave it that mode of worship, and fixed upon it those peculiar doctrines, which afterwards distinguished it from the other religions of the land. Traces exist of very similar institutions, long before the time of Buddha, in Ethiopia, and as far west as Cyrene. In Syria we have something very similar to it in the tenets of the sect of the Essenes; and at Babylon it is nearly certain that a religion closely allied to it was long the faith of a large section of the people. Pythagoras, the contemporary of Sakya Muni, introduced doctrines of the same class at Crotona, in Italy; and in Persia the sect of the Magi adopted rites and practices so similar, that it is not easy always to detect the distinction between them.

Immediately after the death of Sakya Muni, the first great convocation or council of his followers and disciples was held at Rajagriha in Behar, and a second about a century afterwards at Vaisala on the Gunduck, opposite Patna; and though, if we may believe the traditions, these assemblies were most numerously attended by thousands of priests from all parts of the country, we have still no proof of the religion having been generally adopted at that time by either the people or their rulers.

We know that Chandragupta, so familiar to us as the Sandracottus of Alexander's historians, still adhered, with all his court, to the old Brahminical faith; so did his son Bimbasaro. His grandson Asoka, however, after reaching the imperial throne by the murder of his hundred brothers, forsook the faith in which he had been brought up,

and adopted that of Buddha. He then, with the zeal of a new convert, used the influence he possessed as the most powerful monarch of India in those ages, to establish it as the state religion of the country. He afterwards extended it to Ceylon on the south, and Afghanistan on the north; though, as hinted above, there is reason for suspecting that something similar to it existed before his time in the last-named country, one of the original seats of the Arian race.

It was in the seventeenth year of the reign of this king that the third convocation was held in the city of Palibothra, the modern Patna, almost exactly 300 years after the death of the founder of this religion, where the doctrines and formulas of the faith seem finally to have been settled. It is of more importance to our present purpose, that with this king (250 B.C.) the architectural history of India commences: not one building nor one sculptured stone having yet been found in the length and breadth of the land which can be proved to date before his accession. From his time, however, the series of monuments, some monolithic, some rock-cut, and others built, is tolerably complete during the ten or twelve centuries in which Buddhism continued to be a prevalent religion in the country of its birth.

After this we lose the thread of our architectural narrative in India Proper, but it is continued in Ceylon, Burmah, Java, Thibet, and China, to the present day; and we propose to follow it through all the mutations it has undergone in these different lands, before considering the other styles that arose and still exist in India. Each of them will occupy a niche to itself in the following order.

After the Buddhist styles, as above enumerated, will come—

1. *The Jaina style*, a corruption of the pure Buddhist by admixture with the Hindu style.

2. *The Southern Hindu*, a style of architecture of the Tamul races of the South.

3. *Northern Hindu*, a cognate style, occurring in the Valley of the Ganges and its tributaries.

4. *The modern Hindu*, or that form which Indian architecture took after being modified by the influence of the Mahometan styles.

5. *The Cashmirian* and other aberrant styles, which cannot be included under any of the preceding heads.

CHAPTER II.

BUDDHIST ARCHITECTURE.

CONTENTS.

CHRONOLOGICAL MEMORANDA.

	DATES.
Birth of Gautama Buddha	B.C. 623
Death of Gautama Buddha, and first convocation held	543
Chandragupta, contemporary of Alexander	325
Asoka: third convocation held. Buddhism made the religion of the state. Lâts erected. Earliest monuments and inscriptions in India	250
Dasaratha, his grandson. Earliest caves in Behar	about 200
Cuttack caves, from 200 B.C. to about Christian era.	
Topes at Bilsah	2nd cent. B.C. to 2nd or 3rd A.D.
Vicramaditya buildings at Oujein	B.C. 56
Salivahana cave at Karli	A.D. 79
Topes at Manikyala	1st cent. B.C. to 3rd or 4th A.D.
Topes in Afghanistan	1st cent. A.D. to 5th or 6th.
Caves at Ajunta	1st cent. A.D. to 10th or 11th A.D.
Caves at Ellora	5th cent. A.D. to 8th or 9th A.D.
Topes at Sarnath	6th to 9th cent. A.D.

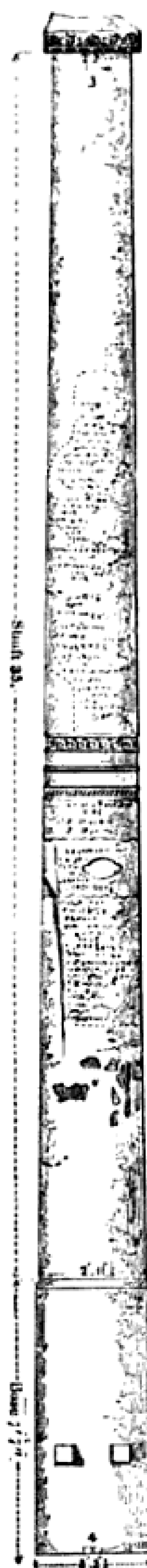
THE examples which remain of Buddhist architecture have hitherto been imperfectly examined, and are generally little known. It is therefore by no means easy to classify them so as to include all, and at the same time render the divisions clear and intelligible. The following arrangement, it is believed, will represent our present knowledge of the subject with tolerable exactness.

1. Topes.—Under this name are included the most important class of buildings. They consist of detached pillars, towers, and tumuli, all of a sacred or monumental character. The word is a corruption of the Sanscrit *sthupa*, meaning a mound, heap, or cairn.
2. Temples.—Known as *Chaitya* halls, or caves.
3. Monasteries.—*Viharas*, being the residences of the priests.

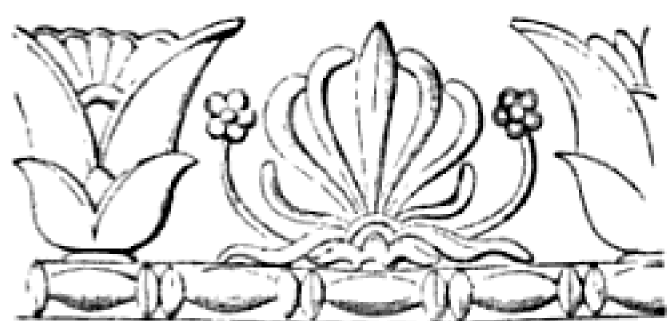
TOPES.

This class includes edifices differing from one another principally in the purposes for which they were erected. The oldest and simplest topes were single pillars (*sthambas*), either carved out of one stone or regularly built; the former being distinguished as *Lâts*. The oldest monuments hitherto discovered in India are a group of these monoliths set up by Asoka in the middle of the third century B.C. They were all alike in form, and all bore the same inscription, being four short edicts containing the creed and principal doctrines of Buddhism, which he

had recently embraced.[1] Of these one is at Delhi, having been re-erected by Feroose Shah in his palace, as a monument of his victory over the Hindus. Three more are standing near the river Gunduck, in Tirhoot; and one, represented in the annexed woodcut (No. 1), has recently been placed on a pedestal in the fort of Allahabad. A fragment of another was discovered near Delhi, and part of a seventh was used as a roller on the Benares road by a Company's engineer officer.


1. Lât at Allahabad.

The following description of the Allahabad pillar will of course serve for all. It is one stone, 42 ft. 7 in. in height, of which 7 ft. 7 in.[2] may be considered as the base, which probably was buried to some extent in the ground, or in the masonry that supported it. The shaft, properly so called, was 3 ft. in diameter at the base, diminishing to 2 ft. 2 in. at the summit. The necking immediately below the capital (woodcut No. 2) represents, with considerable purity, the honeysuckle ornament of the Assyrians, which the Greeks borrowed from them with the Ionic order. It is very interesting to meet with it also on the earliest known monument of Buddhist art. The pillar at Allahabad has lost its capital, but we are able to supply the deficiency from two of the Tirhoot examples, which retain their capitals with the lions which seem to have crowned the summits of all. In these we meet with the bead and reel ornament familiar to us from Persian Greek architecture. The capitals are so similar to the lower members of those at Persepolis, and more especially to the bases of the columns there, as to leave no doubt of their common origin.


2. Honeysuckle ornament from capital of Lât.


3. Capital of Lât on the Gunduck. From a drawing by the late Capt. Kittoe.

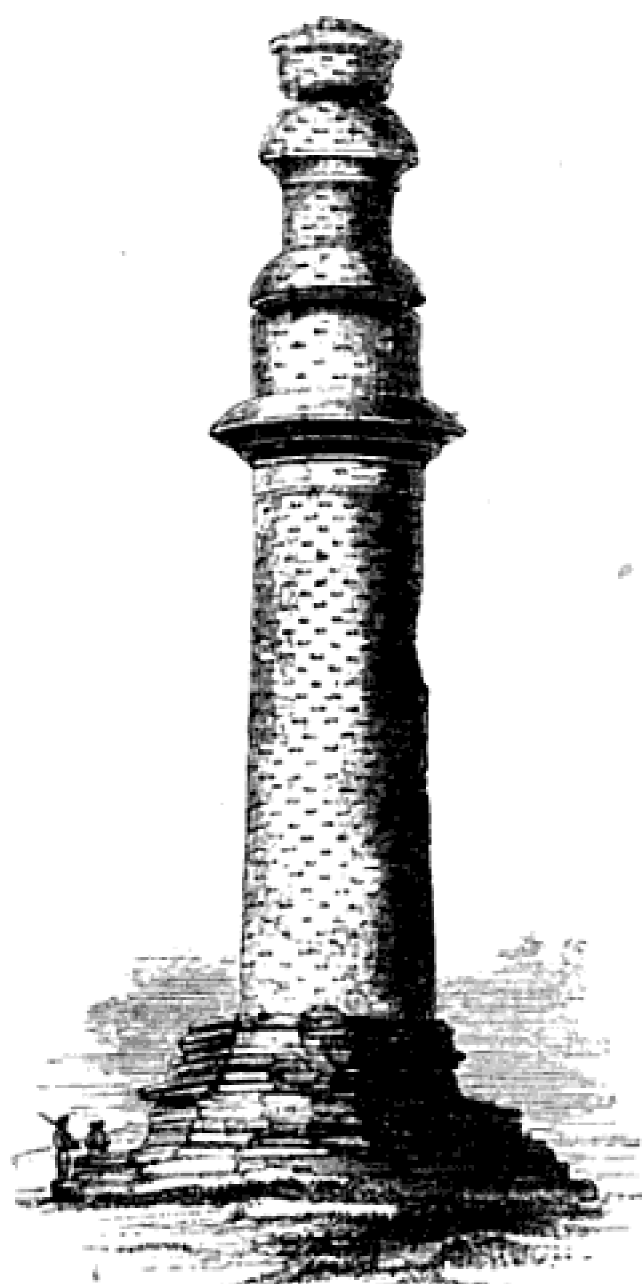
It is almost certain that these pillars of Asoka stood originally in front of some sacred buildings which have perished. We know that the great tope of Sanchi had one or two such monoliths in front of each of its gateways, and the great caves of Karli (woodcut No. 18) and Kennari show

[1] Translated by Jas. Prinsep, in the sixth volume of the Bengal Journal of the Asiatic Society, p. 566 *et seq.*

[2] These dimensions are taken from Capt. Burt's drawings published in the J. A. S. B., vol. iii. plate 3.

similar pillars cut in the rock in front and on each side of the entrance of the great halls, which, therefore, we may assume to be their proper position.

There is no instance, so far as I am aware, of a built monumental pillar now standing in India. This is sufficiently accounted for by the ease with which they could be thrown down and their materials removed, when they had lost the sanctity by which alone they had been protected. There are, however, two such pillars among the topes of Cabul, and evidently coëval with them, now called the Surkh Minar, and Minar Chakri. These are ascribed by the traditions of the place to Alexander the Great, though they are evidently Buddhist monuments, meant to mark some sacred spot, or to commemorate some event, the memory of which has passed away. They are probably of the third or fourth century of our era, and their shape and outline exhibit great degeneracy from the purer forms with which architecture commenced in India, and which were there retained to a much later period than in this remote province. There can be little doubt but that their upper members are meant to be copies of the tall capitals of the Persepolitan pillars, which were probably common also in Assyria and throughout this part of Asia. They may also have resembled the chapiters which form so important a part of the two pillars which Solomon set up before his temple at Jerusalem.[1]



4. Surkh Minar, Cabul.
From a drawing by Mr. Masson in Wilson's Ariana Antiqua.

The remaining topes are not distinguishable from one another in external shape, though they differed considerably in the purposes for which they were designed, and in the feelings of veneration with which they were regarded. The most important of these purposes was the preservation of relics, the worship of these objects being one of the principal characteristics of Buddhism. In some of the topes which have been opened regular relic-chambers are found, some still furnished with the relics themselves, others plundered of their treasure. These were properly designated as *dagobas* (from *dhatu*, relic, and *gabba* or *garba*, shrine or womb), of which the word pagoda appears to be a

[1] 1 Kings vii. 16, *et seq.*

corruption. Other topes have been found to contain neither relic nor relic-chamber, and these must have been erected to mark some sacred spot or commemorate some event in the history of Buddha or of his religion.

The origin of relic-worship is thus accounted for by the traditions of Buddhism. It is said that at the death of the founder of the religion eight cities disputed the possession of his mortal remains. The difficulty of a decision was avoided by a distribution to each of some portion of the sacred relics. Of these by far the most famous is the Tooth relic, which, till the last few years, was so carefully guarded by the British governors of Ceylon, as the Palladium of our sovereignty over that island. This originally fell to the lot of Kalinga, and was magnificently enshrined on the spot where now stands the celebrated temple of Juggernath at Puri. Here it remained till the fourth century, when it was conveyed for a short time to Patna, then the capital of the country. After performing many miracles there it was restored to its original place of deposit, but only for a very short time;—for, on the invasion of the country by strangers from the East, it was conveyed to Ceylon, concealed in the hair of the king's daughter: it was received there in the year 311 of our era, and has ever since continued the most precious treasure of the realm.[1]

Besides this, Ceylon possesses the left Collar-bone relic, enshrined in the Thuparamya pagoda at Anuradhapoora (woodcut 31), and the Thorax-bone, enshrined at Bintenne, near Kandy. The Mahawanso, or great Buddhist history of Ceylon, describes the mode in which this last building was raised, by successive additions, in a manner so illustrative of the principle on which these relic-shrines arrived at completion, that it is well worth quoting:—"The chief of the Devos, Sumano, supplicated of the deity worthy of offerings for an offering. The Vanquisher, passing his hand over his head, bestowed on him a handful of his pure blue locks from the growing hair of the head. Receiving and depositing it in a superb golden casket, on the spot where the divine teacher had stood, he enshrined the lock in an emerald dagoba, and bowed down in worship.

"The thero Sarabhu, at the demise of the supreme Buddha, receiving at his funeral pile the Thorax-bone relic, brought and deposited it in that identical dagoba. This inspired personage, causing a dagoba to be erected 12 cubits high and enshrining it, thereon departed. The younger brother of King Devenampiatisso (B.C. 250), discovering this marvellous dagoba, constructed another encasing it, 30 cubits in height.

"King Duttagamini (B.C. 161), while residing there, during his subjugation of the Malabars, constructed a dagoba, encasing that one, 80 cubits in height."

"Thus was the Mahiyangana dagoba completed."[2] It is possible

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[1] See account of Tooth relic by the Hon. G. Turnour, J. A. S. B., vol. vi. p. 856 *et seq.* Sterling Cuttack, Trans. A. S. B., vol. xv. p. 263, &c. &c.

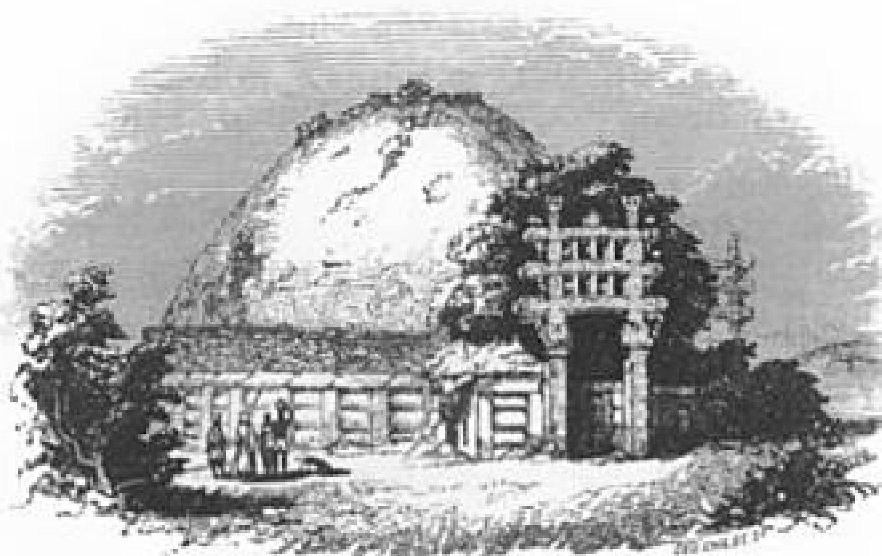
[2] Abstracted from Turnour's Mahawanso, p. 4.

that at each successive addition some new deposit was made; at least most of the topes examined in Afghanistan and the Punjaub show signs of these successive increments, and successive deposits, one above the other.

About 30 topes have been opened near Bilsah by Major Cunningham, of the Bengal Engineers, and Lieut. Maisey, ten of which have yielded relics of the most interesting character. One tope contained relics of the two principal disciples of Buddha; another of Moggaliputra, who presided over the third great convocation held by Asoka. Others contained relics of those missionaries whom we know to have been sent by Asoka to convert the nations of the Himalaya and of the banks of the Indus. Relics were found of other priests and saints whose names and acts are still unknown to us. The whole of these discoveries tend to confirm to a very great extent the traditions that have come down to us, besides making the intent and purpose of these buildings perfectly clear and intelligible.

By far the finest as well as the most perfect tope in India is that of Sanchi, the principal one of those opened near Bilsah, in Central India. It is uncertain whether it ever contained relics or not, as it had been dug into in 1819 by Sir Herbert Maddock, since which time it has remained a ruin, and may have been plundered by the natives. At any rate it must have been a spot of peculiar sanctity, judging both from its own magnificence and from the number of subordinate topes grouped around it. In fact there are a greater number of these monuments on this spot, within a space not exceeding 17 miles, than there are, so far at least as we now know, in the whole of India from the Sutlej to Cape Comorin.

The general appearance of the Sanchi Tope will be understood

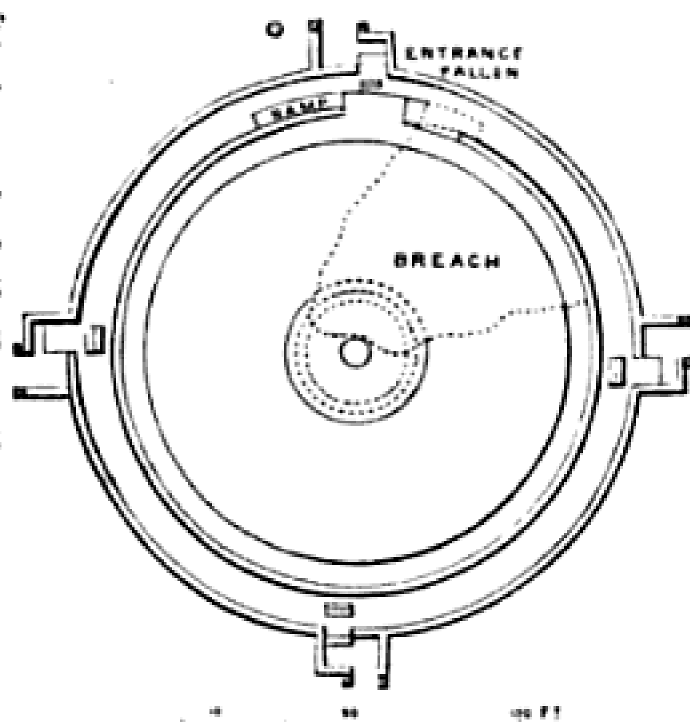


5. View of Sanchi Tope.

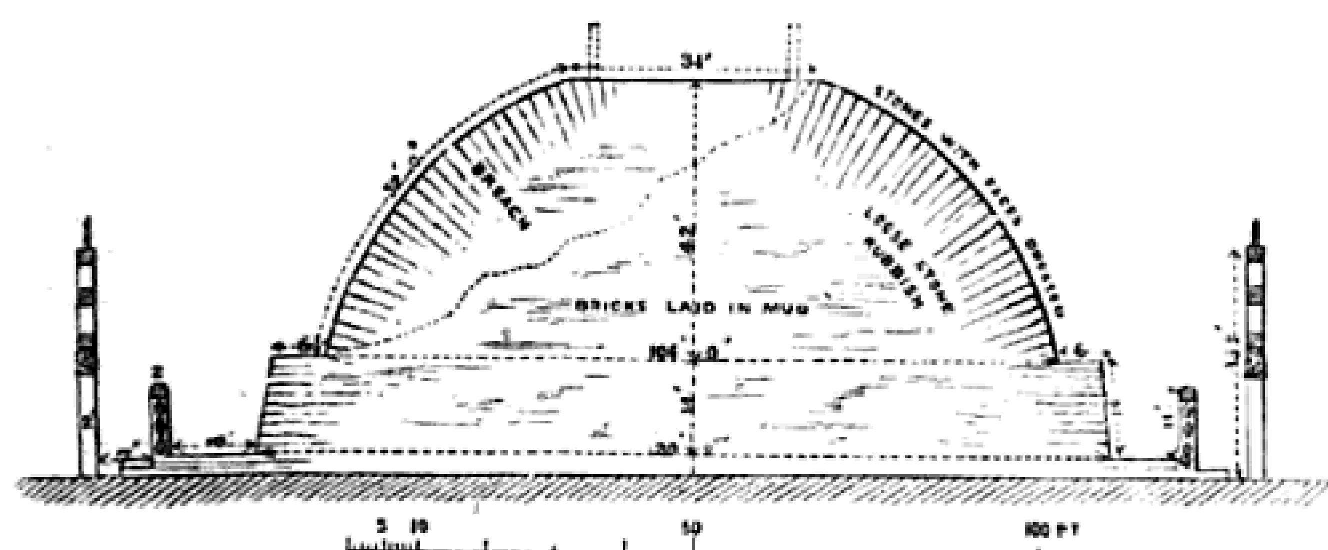
from the view of it (woodcut No. 5), and its shape and arrangement from the plan and section (Nos. 6 and 7). From these it will be observed that the principal building consists of a dome somewhat less than a hemisphere, 106 feet in diameter, and 42 feet in height, with a platform on the top 34 feet across, which originally formed the basis

of the *tee* or capital, which was the invariable finish of these monuments.[1]

The dome rests on a sloping base, 14 feet in height by 120 in diameter, having an offset on its summit about 6 feet wide. This, if we may judge from the representations of topes on the sculptures, must have been surrounded by a balustrade, and was ascended by a broad double ramp on one side. It was probably used for processions encircling the monument, which seem to have been among the most common Buddhist ceremonials. The centre of this great mound is quite solid, being composed of bricks laid in mud; but the exterior is faced with dressed stones. Over these was laid a coating of cement nearly 4 inches in thickness, which was, no doubt, originally adorned either with painting or ornaments in relief.

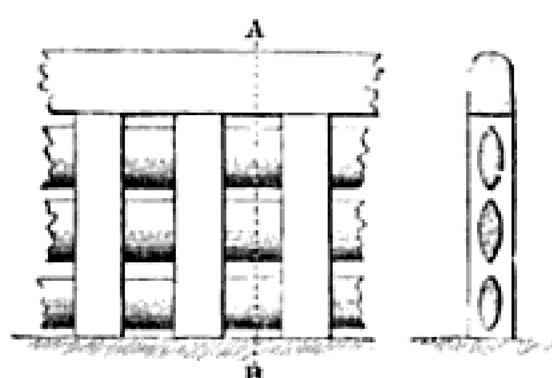


6. Plan of Tope at Sanchi.



7. Section of Tope at Sanchi.

The fence by which this tope is surrounded is extremely curious. It consists of stone posts 8 ft. 8 in. high, and little more than 2 ft. apart. These are surmounted by a plain architrave, 2 ft. 4 in. deep, slightly rounded at the top. So far this enclosure resembles the outer circle at Stonehenge; but between every two uprights three horizontal cross-pieces of stone are inserted, of an elliptical form, of the same depth as the top piece, but only 9 in. thick in the thickest part. This is the only *built* example yet discovered



8. Stone balustrade forming the enclosure at Sanchi.

[1] The drawings, plans, &c., are taken from a Memoir by Capt. J. D. Cunningham, J. A. S. B., August, 1847.

of an architectural ornament which is found *carved* in every cave, and, indeed, in almost every ancient Buddhist building known in India. The upright posts or pillars of this enclosure bear inscriptions indicating that they were all given by different individuals. But neither these nor any other inscriptions found in the whole tope, or in the smaller topes surrounding it (though there are as many as 250 inscriptions in all), contain any known name, or any clue to their age.[1]

Still more curious, however, than even the stone railing are the four gateways. One of these is shown in the general view of the buildings (woodcut No. 5). It consists of two square pillars, covered with sculptures, with bold elephant capitals, rising to a height of 18 ft. 4 in.; above this are three lintels, slightly curved upwards in the centre, and ending in Ionic scrolls; they are supported by continuations of the columns, and three uprights inserted in the spaces between the lintels. They are covered with elaborate sculptures, and surmounted by emblems. The total height is 33 ft. 6 in. One gateway has fallen, and if removed to this country would raise the character of Indian sculpture, as nothing comparable to it has yet been transported from that part of the world to Europe.[2]

No account has been published of the other topes, 30 or 40 in number, composing this group. We only know that none are so large as the one just described: some are not more than 6 ft. in diameter, and in no instance are the enclosures and gateways so complete as those of the great Tope.[3]

Though the inscriptions, as has been said, fail to give us the date of these topes, the characters in which they are written, together with the architecture of the buildings, prove that they must be as old as the Christian era. They could not have been anterior to Asoka's time (B.C. 250), so that we obtain an approximation to their age.[4]

Manikyala.

The only other very important group of topes now known to exist in India is that at Manikyala, the Taxila of Alexander's historians, situated between the Indus and the Jelum, or Hydaspes. The principal structure there is a tope, nearly of the same dimensions in ground-plan as that at Sanchi, but taller, being between 70 and 80 ft. in height, while the latter is only 56 ft. It differs also in appearance, the dome being a perfect hemisphere, and the offset of the base omitted. The base itself is far more ornate, being surrounded by a series of dwarf

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[1] The celebrated Chandragupta inscription on the eastern gateway (J. A. S. B., vol. vi. p. 454) is evidently a subsequent addition, and belongs to the fourth century A.D.

[2] One of these gateways is engraved in great detail, and to a large scale, as a title-page to the author's Illustrations of Indian Architecture.

[3] The above particulars have been taken from a paper by the late Capt. J. D. Cunningham (J. A. S. B., Aug. 1847, p. 740 *et seq.*), the illustrations of which, though incomplete, indicate some remains of built temples and monasteries at the same place.

[4] Since this work went to press, Major, now Col., Cunningham's work on these Topes has been published in this country, and, though full of interesting details and illustrations, adds little to the information previously obtained.

pilasters in low relief, probably as a substitute for the independent railing of the Sanchi Tope. These M. Court describes as having capitals with rams' heads (*query*, bulls'?), like those at Persepolis.[1] This is likely enough in itself, but could scarcely have failed to be mentioned by the accurate Elphinstone,[2] had it been correct.

This tope was opened in 1830 by General Ventura; and three separate deposits of relics were found at the depths of about 25, 45, and 65 ft. respectively, each apparently increasing in value with its depth from the top. With these were buried a great number of coins, besides many placed intermediately between the principal deposits. From these it appears that the upper deposit is certainly as modern as the time of the Sassanidæ, being of the fourth or fifth century. But the lower relics may be two centuries earlier, though the evidence on this point is by no means so clear as might be desired, nor were the excavations so carried on as to show whether the tope had reached its present dimensions by successive additions like that at Bintenne (p. 9), or whether it had been erected at once. The former was probably the case, judging from the different depths at which the relics were found.

The most important relic appears to have been a brown liquid contained in a box with an inscription on its lid. When this inscription shall have been deciphered, we shall probably know in honour of what saint this vast mound was erected.

There are at least 15 other topes in this group, one of which was opened by M. Court, who found in a square chamber, 10 ft. above the level of the ground, a gold cylinder enclosed in one of silver, and that again in one of copper. The inner one contained 4 gold coins, 10 precious stones, and 4 pearls. These were no doubt the relics which the tope was intended to preserve. The inscription was illegible, so that we cannot ascertain to whom they belonged. There were silver coins in the tope, and in the cylinders, though not in the innermost one. These are Roman Consular coins[3] of Mark Antony and Augustus Cæsar. The others are Bactrian and native coins, generally supposed to be near the Christian era in date, so that we can have no hesitation in ascribing the tope to the first century. It is so ruined externally that we can form no comparison of the probable age of this and the others. The dates therefore of the greater part of these topes must remain uncertain till they have been systematically examined.

A very large enclosure of a tope is found at Amravati, near the mouth of the river Kistna, in the Madras territory. It now bears the name of Dipal-dinna, or Mount-of-light, but why it is so called has not hitherto been accounted for. The annexed plan (No. 9) will explain the general arrangement of the place. The tank shown in the centre is not an original part of the structure. Its excavation

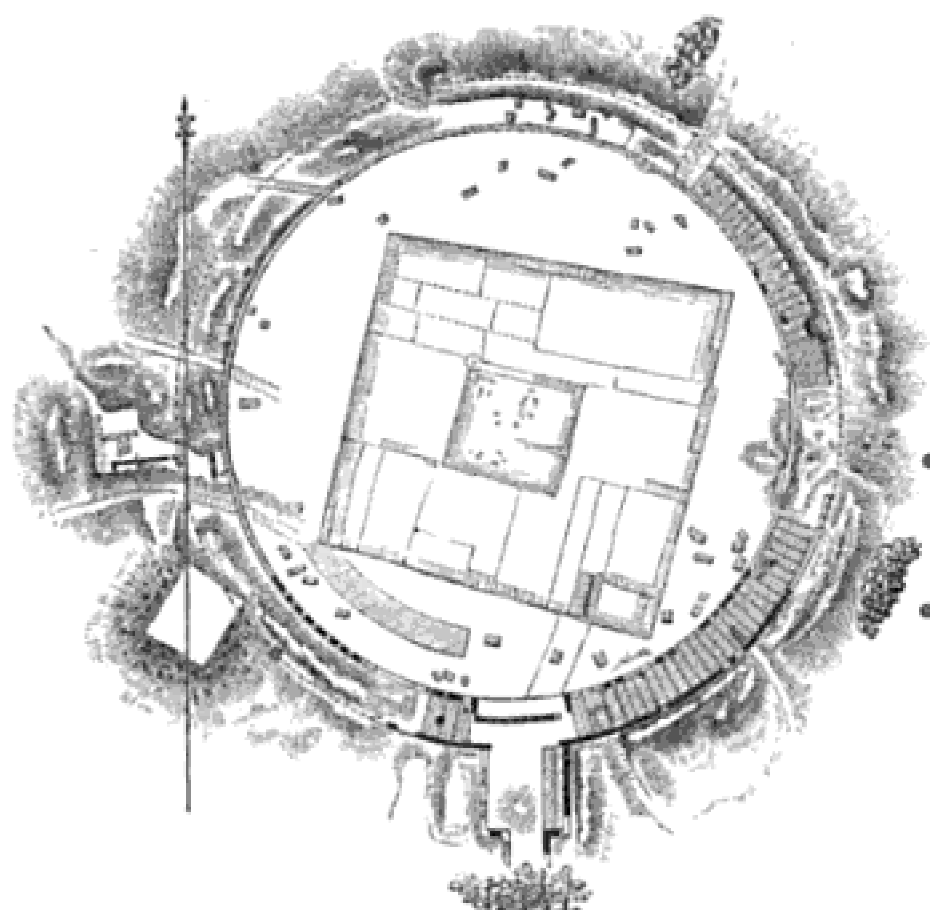
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[1] J. A. S. B., vol. iii. p. 557.

[2] Journey to Cabul. The view in his work, though the best we have, is not probably to be depended upon. It was not drawn by the author. J. A. S. B., vol. iii. p. 314 *et seq.*

[3] J. A. S. B., vol. iii. pp. 560 and 635.

was commenced in the last century, and continued in the present, till some troubles in the district caused it to be abandoned and left as it now is, incomplete. As far as the traditions collected by Colonel Mackenzie are intelligible, the monument in the centre was opened by a local Raja in search of treasure, but, failing in finding any, he determined to utilize the space he had cleared by forming in it a reservoir of water. These operations have effectually destroyed all trace of what the central shrine originally consisted of. It can scarcely have been a large and solid mound like that of Sanchi, because, if so, an immense mass of worthless material has been entirely removed, while many stones of far greater value, and easily transported, remain *in situ*. From the great size of the whole enclosure, and from the care and labour displayed in the parts which remain, we may conclude the central shrine to have been some object highly ornamented and of great sanctity.[1]



9. Tope of Amravati. From a MS. plan in the India House. Scale 100 ft. to 1 in.

These remaining parts consist principally of two concentric circles of upright stones, the outer 193 ft. in diameter, and between the two a paved pathway 13 ft. in width. The upright stones are not, like those of the Druidical circles in Europe, mere unshaped masses, but are carved with a minuteness unknown anywhere else, even in India. This may be seen both in the elaborate and beautiful drawings which Colonel Mackenzie caused to be made of them—copies of which exist at Madras, Calcutta, and in the East India House—and also in specimens of the stones themselves, which he sent to all these places. With our imperfect knowledge of Buddhist history, it is impossible to identify many of the scenes and subjects represented, but they certainly form one of the most complete illustrations of Buddhist forms and traditions that can possibly be conceived.

Besides these two circles of stones, the remains of two of its gate-

[1] The particulars from which the account and plan of the Dipal-dinna are compiled are contained in 2 vols. of drawings of the monument, and some MS. notes, in the Mackenzie Collection in the India House, and a paper communicated to Mr. Buckingham by Colonel Mackenzie in March, 1822.

ways (out of four that probably originally existed) have been exhumed, though the drawings do not suffice to explain what their form and elevation were. We may, however, believe them to have been of the same character with those at Sanchi above described, as very similar gateways are more than once represented on the sculptures at this very place.

The mound of earth that surrounds it, backing up the outer circle of stones, seems merely to be the rubbish from the excavation of the tank, and not at all a part of the original design. This is evident from the fact that the carving at the back of the stones, which is of the same character with that at the front, is hidden by it. The removal of this rubbish is much to be desired, and would probably lead to important discoveries. At present we cannot fix the date of the tope with any exactness. All that we can now say is, that it probably was commenced in the third or fourth century of our era, and may have been continued down to the tenth or twelfth.

A great number of tumuli of various sizes surround this great tope, but none, so far as I am aware, have been opened or examined with care. Caves too, with their walls adorned with fresco paintings, occur in the neighbourhood, but they too are unexplored.

Besides these usual accompaniments, this district abounds in what are called *Pandu Kolis*, being circles of unhewn stones, identical in every feature with the Druidical circles of Europe, except that their dimensions are smaller, their diameter being generally about from 10 to 20 ft. As far as has been ascertained, they were nearly always burying-places, which does not appear to have been the case with the circles in Europe.

A few miles north of Benares is a group of topes, known by the name of Sarnath, the principal of which is of a tower-like form, between 50 and 60 ft. in diameter, and 110 ft. in height. The lower part is cased with stone, and adorned with eight niches, surmounted by triangular canopies, and ornamented by bands of scroll-work of great beauty and delicacy. These, however, have only partially been finished; for, like all Indian sculpture, it was added after the masonry was complete. The upper part is in a ruinous state, and appears most probably never to have been finished. It has been opened,[1] but no relic or relic-chamber was found. This spot has been visited by two Chinese travellers, Fa Hian[2] in the year 405, and Hiouen Thsang in the seventh century, who describe all these topes and the purposes for which they were erected.

The great tope now standing at Sarnath seems to have been raised in the end of the 6th or beginning of the 7th century, and to be the identical one described by Hiouen Thsang. It must have replaced or enclosed that seen by Fa Hian. As neither of these travellers mentions

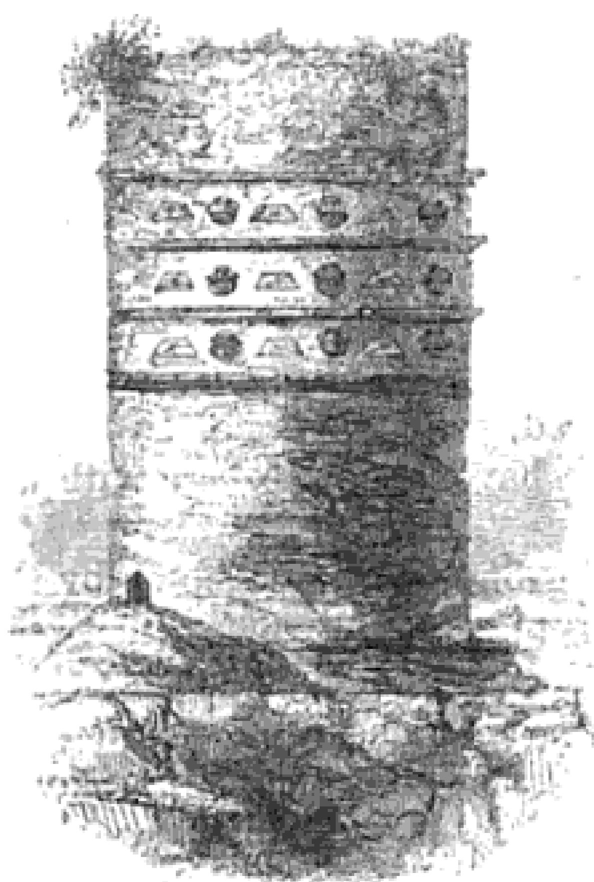
[1] This building was opened by Major Cunningham, under Mr. Prinsep's auspices, in 1830, and careful drawings made of every part of it, which were, I believe, engraved, but never published, nor has any detailed account ever been given of the result of the excavation.

[2] Foe Koue Ki, p. 305. Voyages de Hiouen Thsang, p. 133.

any relics as existing here, we are perhaps justified in assuming that none were ever deposited, but that this and the neighbouring topes were erected to commemorate events in the life of Buddha.

At Keseriah, in Tirhoot, about 20 miles north of Bakra, where one of the pillars of Asoka mentioned above is found, are the ruins of what appears to have been a very large tope. But it is entirely ruined externally, and has never been explored, so that we cannot tell what was its original shape or purpose.[1] All along this line of country numerous Buddhist remains are found, though all more or less ruined, and none of them have been carefully examined. This is the more to be regretted, as this was the native country of the founder of the religion, and the place where apparently his doctrines were originally promulgated. If anything older than the age of Asoka is preserved in India, it is probably in this district that we must look for it.

The annexed woodcut of a tower on the Giriyek hill south of Patna, in Behar, is copied from an engraving which is the only published description of the object it represents. It is ascribed by the natives to Jarasandhu, a king who lived and reigned here five or six centuries before Buddha's time. He is a favourite popular hero, like the Pandus, his contemporaries, to whom half the ancient things in India are ascribed. But there is no doubt that it is a Buddhist monument, and probably of Asoka's time, or a little later, and erected to commemorate some action, or the performance of some miracle.[2]



10. Tower on Giriyek Hill. From a drawing by Mr. Ravenshaw, J. A. S. of Bengal, vol. viii. p. 353.

The most extensive group of topes known to exist is that of Jelalabad. These are situated beyond the Indus, and therefore not strictly within the limits of India as usually defined. But they stand directly in the track by which the Arian races entered India. That district, at the time when they were erected, and indeed long before, was so closely connected with India as to be almost always confounded with it by the earlier historians.

The oldest tope hitherto discovered in these parts, or probably indeed in India, is one at Jamalgiri, 30 miles north of Peshawur.

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[1] A view of it is given, J. A. S. B., vol. iv. p. 122.

[2] Major Cunningham, in a paper recently read to the Royal Asiatic Society, suggests that those topes which contained no relic were dedicated to the first immortal Buddha as contradistinguished from the last mortal one. I can, however, trace no such distinction in form in the Buddhist writings or traditions, and am not aware on what he founds such an assumption.

It consists of a circular building, probably 20 ft. in diameter,[1] ornamented by 18 figures of Buddha sitting in the usual cross-legged position, each figure separated from the one next it by a pilaster of Corinthian design.

This central building is surrounded by an enclosure probably 50 ft. in diameter—a polygon of 13 sides with an opening in each face—now a mere wall of rude masonry, but once no doubt richly ornamented. Fragments of its sculpture have been recovered, and are so nearly Greek in character, so infinitely superior in design and execution to anything else which has hitherto come home from that country,[2] as to prove incontestably that they must have been executed while the influence of the Græco-Bactrian kingdom was still strong in that quarter: a conclusion which is further confirmed by the relative importance of the enclosure, and the general architectural arrangements of the building.

A great number of the remaining topes were opened by Dr. Honigberger in the years 1833 and 1834; and the results of his numismatic discoveries have been published in Paris and elsewhere. The only account that we have of the buildings themselves is that given by Mr. Masson, who, with singular perseverance and sagacity, completed what Dr. Honigberger left undone.[3]

The topes examined and described by Mr. Masson as existing around Jelalabad are 37 in number, viz. 18 distinguished as the Darunta group, 6 at Chahar Bagh, and 13 at Hidda. Of these about one-half yielded coins and relics of more or less importance, proving the dates of their erection to extend from a few years before the Christian era to the fifth or sixth century.

In general appearance they differ considerably from the great Indian topes just described, being all taller in proportion to their breadth, and having a far more tower-like appearance, than any found in India, except the Sarnath example. They are also smaller, the largest at Darunta being only 160 feet in circumference. This is about the usual size of the first-class topes in Afghanistan, the second class being a little more than 100 feet, while many are much smaller.

In almost every instance they seem to have rested on a square base, though in many this has been removed, and in others is buried in rubbish. Above this rises a circular base or drum, crowned by a belt, sometimes composed merely of two architectural string courses, with different-coloured stones disposed as a diaper pattern between them.

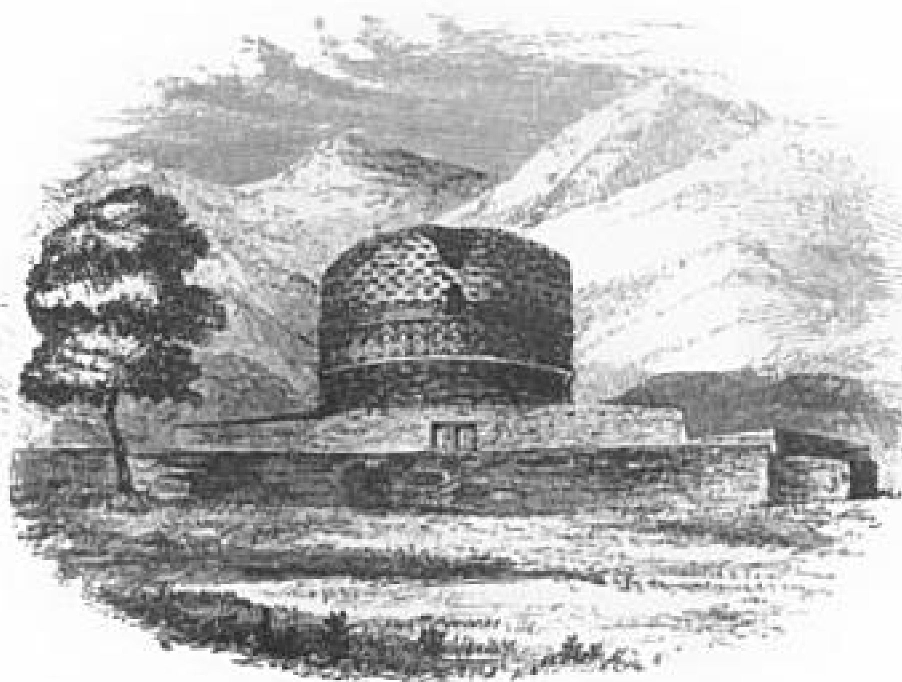
[1] The building was discovered and excavated by Lieuts. Lumsden and Stokes of the Company's service, and some drawings and plans published in the Journal of the Asiatic Society of Bengal, in Nov. 1852, but without scales or dimensions, or any such description as would make the architectural arrangements intelligible.

[2] These sculptures are at present deposited for exhibition in the Crystal Palace at Sydenham, by their proprietor, E. C. Bayley, Esq., B. C. S.

[3] Mr. Masson's account was communicated to Professor Wilson, and by him published in his Ariana Antiqua, with lithographs from Mr. Masson's sketches, which, though not so detailed as we could wish, are still sufficient to render their form and appearance intelligible.

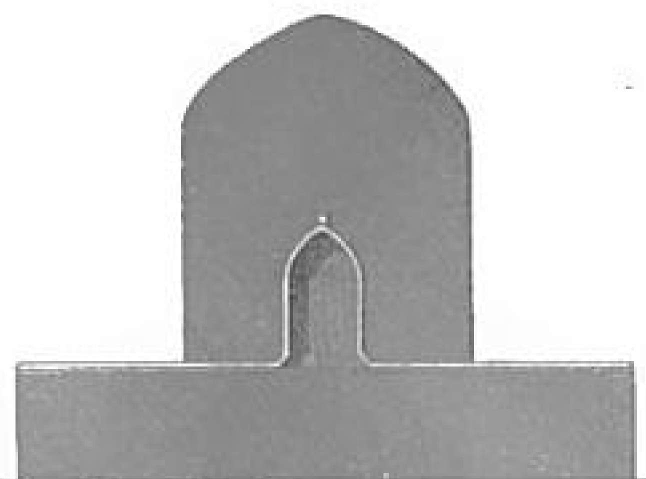
Sometimes a range of plain pilasters occupies this space. More generally the pilasters are joined by arches sometimes circular, sometimes of an ogee form. In one instance—the red tope—they are alternate circular and three-sided arches. That this belt represents the enclosing rail at Sanchi and the pilastered base at Manikyala cannot be doubted. It shows a very considerable change in style to find it elevated so far up the monument as it here is, and so completely changed from its original purpose.

Generally speaking, the dome or roof rises immediately above this, but no example in this group retains its termination in a perfect state. Some appear to have had hemispherical roofs, some conical, of greater or less steepness of pitch; and some, like that represented in woodcut No. 11, it is probable were flat, or with only a slight elevation in the centre. It is very probable that there was some connection between the shape of the roof and the purpose for which the tope was raised. But we have not evidence to lead us to any decision of this point.



11. Tope at Bimeran.
From a drawing by Mr. Masson, in Wilson's Ariana Antiqua.

One interesting peculiarity was brought to light by Mr. Masson in his excavation of the tope at Sultanpore, as shown in the annexed section (woodcut No. 12). It is proved that the monument originally consisted of a small tope on a large square base, the relic being placed on its summit. It was afterwards increased in size by a second tope being built over it.



12. Tope, Sultanpore.
From a drawing by Mr. Masson, in Wilson's Ariana Antiqua.

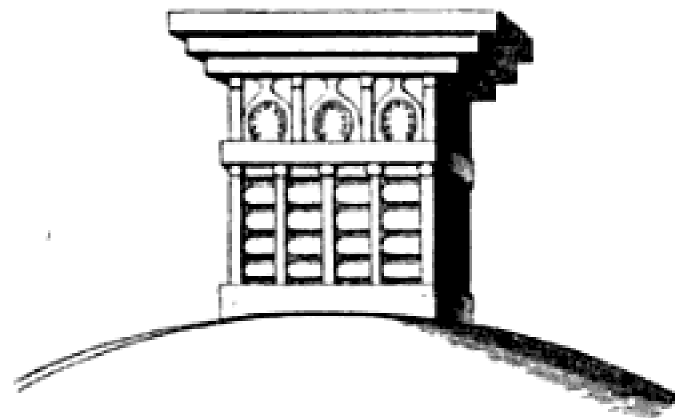
Besides these there are about 20 or 30 topes in the neighbourhood of Cabul, but all very much ruined, and few of any striking importance. So at least we are led to infer from Mr. Masson's very brief notice of them. No doubt many others still remain in spots hitherto unvisited by Europeans.

In the immediate vicinity of all these topes are found caves and tumuli, the former being the residences of priests, the latter for the most part burying-places, perhaps in some instances smaller relic-

shrines. Their exact destination cannot be ascertained without a careful investigation by persons thoroughly conversant with the subject. There are many points of great interest which still require to be cleared up by actual examination. When this has been done we may hope to be able to judge with some certainty of their affinity with the Indian buildings on the one hand, and those of Persia on the other.

None of the topes described above—indeed, no built tope in India—retains a vestige of its *tee* or terminal, which nevertheless must have crowned them all when in their original and perfect state. No representation of a tope—and there are some hundreds among the sculptures of Amravati and Sanchi, and in the painting at Ajunta and elsewhere—is ever without this indispensable accompaniment. All complete rock-cut topes in the caves, as well as the models which are strewn by hundreds about Gya and other Buddhist sites, are so adorned, as are also all modern topes in Burmah, Thibet, and elsewhere. With so many authorities there is no difficulty in restoring this member, though it certainly would be a satisfaction to find one *in situ*.

Its earliest form seems to have been that represented in the annexed woodcut, from the relic-shrine in the cave No. 10 at Ajunta.[1] It consists of a square box, probably originally of wood, and afterwards copied in stone, its lower part being an exact copy of the railing enclosing the tope at Sanchi (p. 11). Above this is an ornamental frieze of window-heads, exactly resembling the arch hereafter to be described in the Karli cave. The whole is covered with three horizontal slabs projecting one beyond the other. In this form there can be very little doubt but that it was, or at all events represented, a châsse, or relic-box; and it is more than probable that originally the relic was not placed in the tope, but on its top. At all events, we find from Fa Hian and others that the relics were frequently exhibited in public, and consequently must have been placed in some accessible shrine; and nowhere could one be placed in a position more consonant with the purpose of the monument or its architectural peculiarities than this one is.



13. Base of a Tee cut in the rock at Ajunta.

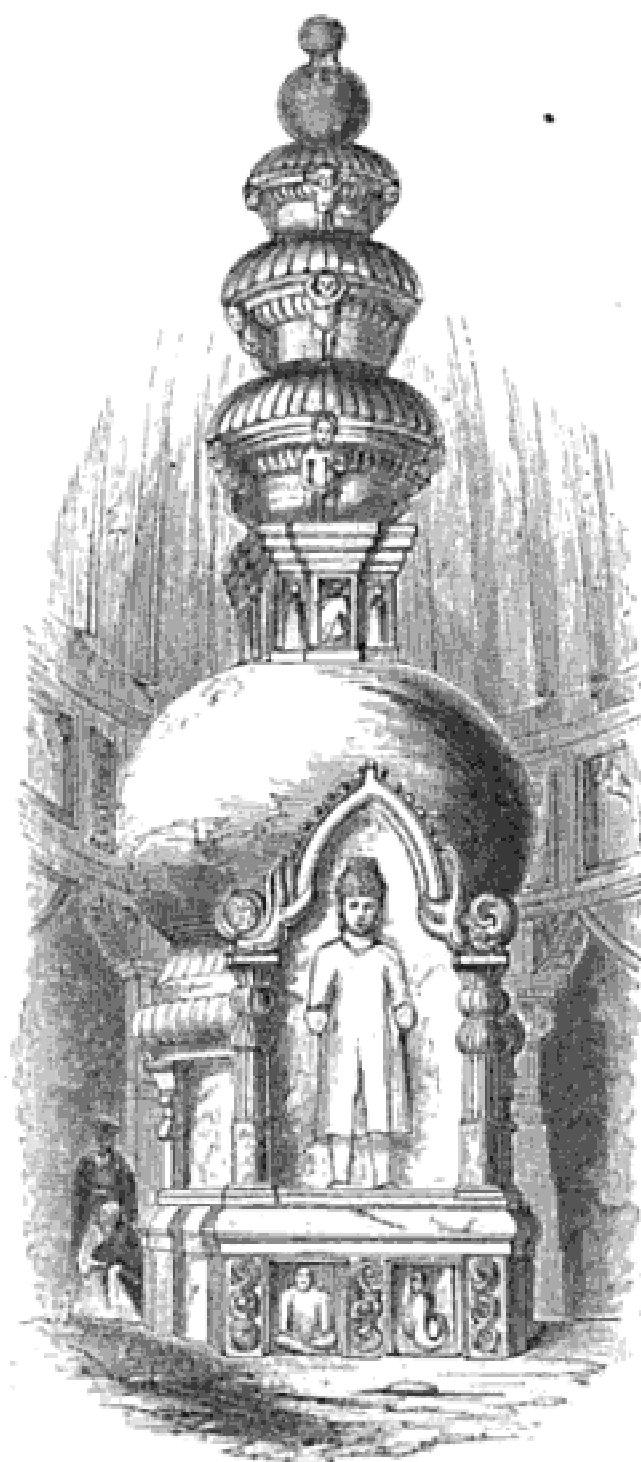
If we may venture to adopt this conjecture, it will at once explain several peculiarities, and reconcile several difficulties. In the case of topes in which no relic has been found, as that of Sanchi, we may conclude that there was in many cases originally some sacred object which has disappeared with the terminal which contained it. In the Sultanpore tope (woodcut No. 12), it would be only necessary to suppose a determination to enclose a relic that had previously been accessible, to

[1] See Illustrations of the Rock-cut Temples of India, by the author, p. 17, and plate iii., from which the woodcut is taken.

account for the peculiarities of its structure. Had we drawings of the exterior of the chambers in which relics are found in the inside of the topes, this question would be easily settled, but in the researches which have been made this has been entirely overlooked.

The representations of topes would lead us to believe that this base was in most instances—though not invariably—surmounted by an umbrella, the most common symbol of royalty and state among Eastern nations. All modern pagodas have this; and in one of the oldest caves in India (that at Karli, woodcut No. 18) a wooden umbrella still surmounts the shrine, and is apparently an original part of the design, if not indeed the very umbrella first set up 1800 years ago.

In some instances three of the umbrellas were placed one above the other; and in process of time all these wooden ornaments came to be copied in stone, and to assume a more strictly architectural character, and the tope and its terminal took a more spire-like form, like the one in cave 19, at Ajunta (woodcut No. 14), where the three umbrellas have become a spire, and the tope itself as tall in proportion as any of those in Afghanistan.



14. Rock-cut Tope at Ajunta. From a drawing by the Author.



15. Small model found in the Tope at Sultanpore.

Once enfranchised from the exigencies of wooden construction, the transformation of the terminal went on rapidly until it comes to consist of seven,[1] or even a greater number of discs or umbrellas. This is shown in the model (woodcut No. 15) of a tope in steatite,[2] found in the tope at Sultanpore[3] (woodcut No. 12), belonging most probably to the second or third century of our era. It will be observed that the discs, which constitute the upper part of this model, are of a shape which could not well be copied on a large scale in stone, at least in the open air. But it is evidently the type of numberless other examples found all over India, and more especially of the models found near Gya, except that the latter are so far modified in shape that large copies of them could be worked in stone.

In modern times the terminal has frequently become the whole monument, and in Thibet, and more especially in China, the domical part is wholly omitted, and the monument expands into a seven or nine-storied tower, with scarcely a trace of its origin or original destination. In India, too, the Jains built seven and nine-storied towers, which no doubt had the same source, but without retaining more of the original form than the trans-Himalayan examples.

TUMULI.

The tumuli of India now remaining have no features which would entitle them to be regarded as architectural objects. In fact they are little different from the barrows of Europe and other parts of the world: and this analogy is of itself worthy of remark. But it is by no means certain that the tumuli were all as devoid of decoration from the first; for in Ceylon, Thibet, and other Buddhist countries, the tombs of princes and distinguished individuals are built and ornamented exactly like the topes. It is far from certain also that the same may not be true with regard to those in Afghanistan. It has been before observed that the object of the topes in that country is very imperfectly known.

TEMPLES.

As before hinted, no built examples exist in India of the two remaining classes, the temples (*Chaityas*) and monasteries (*Viharas*), into which we have divided the objects of Buddhist architecture. But the rock-cut examples are so numerous and so perfect, that this is hardly to be regretted, except for one singular and somewhat puzzling peculiarity—that it leaves us wholly without the means of judging what the external appearance of those buildings was. We are thus forced to treat it wholly as an internal architecture. Thus for one-half of the subject we have abundant materials; for the other none at all.[4] It is

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[1] Supposed to be symbolical of the seven Dyani Buddhas.

[2] The steatite was considered a sacred stone by the Buddhists in all ages, and is so now by the Chinese, under the name of Yu stone. All their more sacred vessels are made out of it.

[3] Wilson's Ariana Antiqua, pp. 53 and 89, plate iii.

[4] It is probable that a tolerably correct idea of the general exterior appearance of the buildings from which these caves were copied may be obtained from the *Raths* (as they are called) of Mahavellipore (book i. ch. vii.,

by no means impossible that in the neighbourhood of Sanchi and elsewhere some remains may be found that may assist us out of this difficulty; and when we are more familiar with the sculptures and frescoes than we are at present, many of the buildings there represented may be identified and serve as illustrations, but these illustrations would be most unsafe guides at present, unless used with the utmost caution.

The descriptions hitherto published are not sufficient to enable us to form a complete statistical account of the cave-temples of India, as they are usually called. I have myself visited and described all the most important of them;[1] and in an interesting paper, recently read to the Bombay branch of the Asiatic Society by the Rev. Dr. Wilson, he enumerated 37 different groups of caves, more or less known to Europeans. This number is exclusive of those of Bengal and Madras, and new ones are daily being discovered; we may therefore fairly assume that certainly more than 40, and probably nearly 50, groups of caves exist in India Proper.

Some of these groups contain as many as 100 different and distinct excavations, many not more than 10 or a dozen; but altogether I feel convinced that not less than 1000 distinct specimens are to be found. Of these probably 100 may be of Brahminical or Jaina origin: the remaining 900 are Buddhist, either monasteries or temples, the former being incomparably the more numerous class; for of the latter not more than 20 or 30 are known to exist. This difference arose no doubt from the greater number of the viharas being grouped around built topes, as is always the case in Afghanistan; and, consequently, they did not require any rock-cut place of worship while possessed of the more usual and appropriate edifice.

One important feature is an exception to what has been said of our ignorance of the exterior appearance of Indian temples and monasteries. Of the caves the façades are generally perfect, and executed in the rock with all the detail that could have graced the buildings of which they are copies. In the investigation of these objects a very important advantage is the perfect immutability of a temple once hewn out of the live rock. No repair can add to, or indeed scarcely alter, what is once so executed; and there can be no doubt that we see them now, in all essential peculiarities, exactly as they were originally designed. This advantage will be easily appreciated by any one who has tried to grope for the evidence for a date in design, afforded by our much-altered and often reconstructed cathedrals of the middle ages.

The geographical distribution of the caves is somewhat singular, more than nine-tenths of those now known being found within the limits of the Bombay presidency. The remainder consist of two groups, those of Behar and Cuttack, neither of which are important in extent, in Bengal; one only, that of Mahavellipore, in Madras; and two or

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woodcut 42). These are monuments of a much later date, and belonging to a different religion, but they correspond so nearly in all their parts with the temples and monasteries now under consideration, that we cannot doubt their being, in most respects, close copies of them.

[1] Illustrations of the Rock-cut Temples of India, 1 vol.; text 8vo., with folio plates. Weale, London, 1845.

three not very important groups, which have been traced in Afghanistan and the Punjaub.

I was at one time inclined to connect this remarkable local distribution with the comparative proximity of this side of India to the rock-cutting Egyptians and Ethiopians. But the coincidence can be more simply accounted for by the existence of rocks in both countries perfectly adapted to such works. The whole cave district of India is composed of horizontal strata of amygdaloid and other cognate trap formations, generally speaking of very considerable thickness and great uniformity of texture, and possessing besides the advantage of their edges being generally exposed in perfectly perpendicular cliffs. So that no rock in any part of the world could either be more suited for the purpose or more favourably situated than these formations are. They were easily accessible and easily worked. In the rarest possible instances are there any flaws or faults to disturb the uniformity of the design; and when complete they afford a perfectly dry temple or abode, singularly uniform in temperature, and more durable than any class of temple found in any other part of the world. With these advantages we need hardly look further for an explanation of the phenomenon; though some collateral points of explanation may perhaps reveal themselves to future explorers.

Their distribution as to time also presents a curious anomaly. So far as our knowledge now goes, the oldest are undoubtedly those of Behar and Cuttack in Bengal. The former of these were all excavated in the two centuries preceding the Christian era, and of the latter the greater part are equally ancient, though a few probably extend to a century or two after our era; whereas the oldest on the western side —the earliest, for instance, at Ajunta and Karli—can hardly date anterior to the birth of Christ, if so early, and extend to the tenth or perhaps even the twelfth century of our era. Thus the practice of excavating the rock was almost immediately abandoned in the country where it arose, and was taken up and pursued to an extraordinary extent in a district where it certainly was not original.

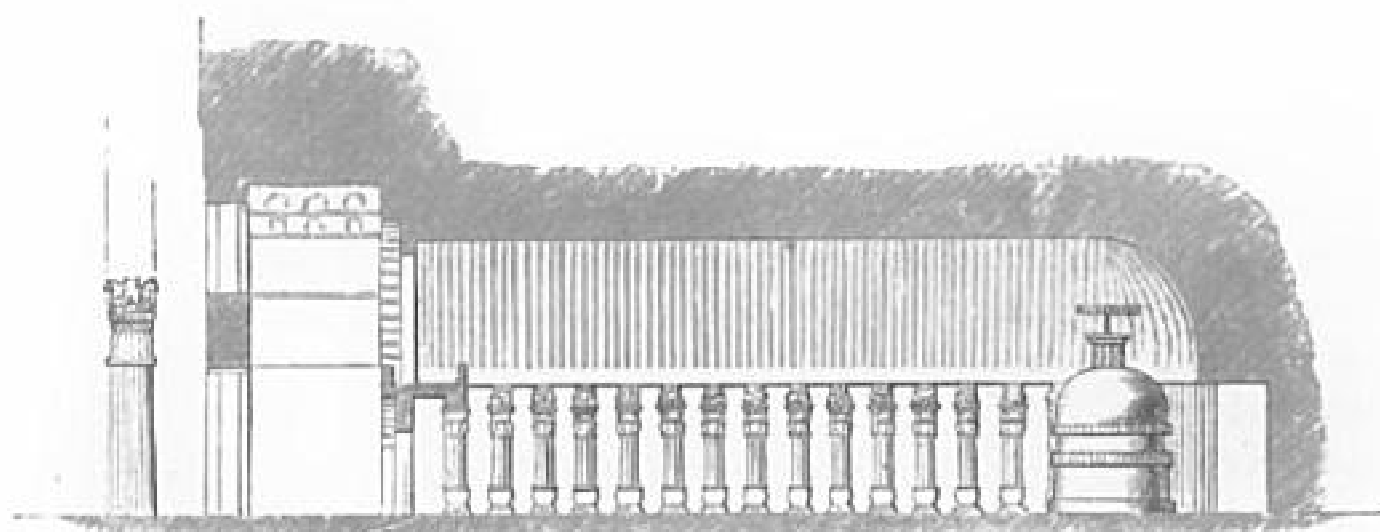
From the time of Dasaratha, the grandson of Asoka, who two hundred years before Christ excavated the first cave at Rajagriha, to Indradyumna, who apparently finished the last of those at Ellora, the series is uninterrupted; and, if properly examined and drawn, the caves would furnish us with a complete religious and artistic history of the greater part of India during fourteen centuries, the darkest and most perplexing of her history. But, although during this long period the practice was common to Buddhists, Hindus, and Jains, it ceased with the Mahometan conquest, or before it. Hardly one excavation has been made or attempted since that period, except perhaps some rude Jaina monoliths in the rock at Gualior, and it may be one or two in southern India.

Karli.

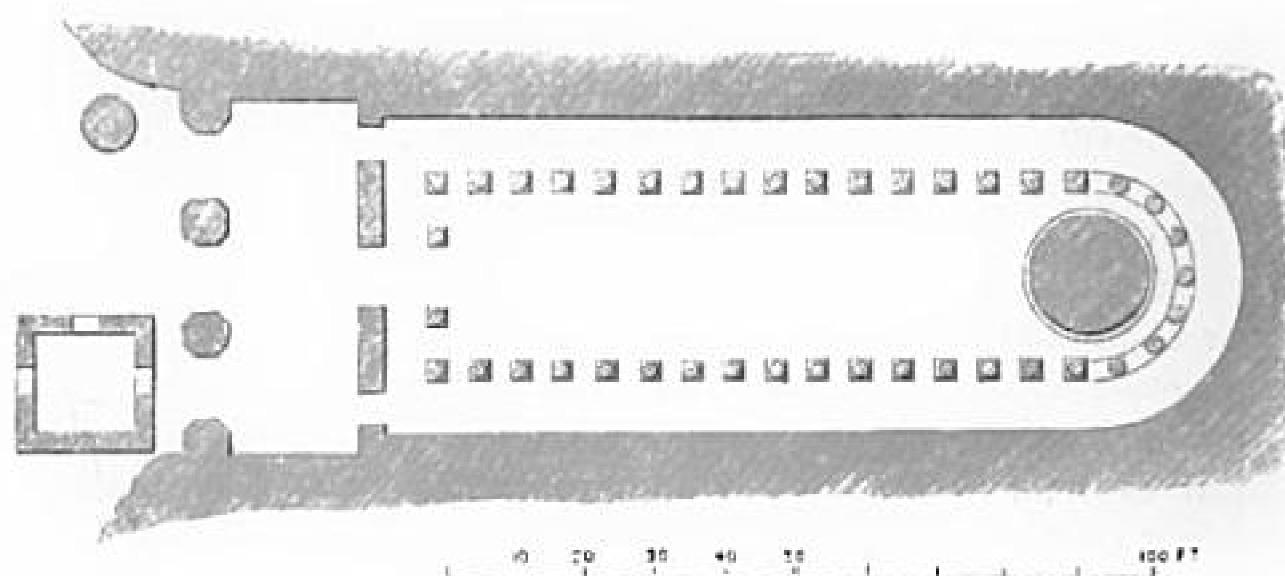
The well-known cave at Karli, situated on the road between Bombay and Poonah, is the largest as well as the most complete hitherto dis-

covered in India, and was excavated at a time when the style was in its greatest purity.

There are no very certain grounds for fixing the date of its excavation, but we shall not err far in attributing it to the century before or after the Christian era—most probably the latter. There are some reasons for ascribing it to the era of Salivahana (A.D. 78), although this, it must be confessed, is at present little more than a mere approximation to the truth.

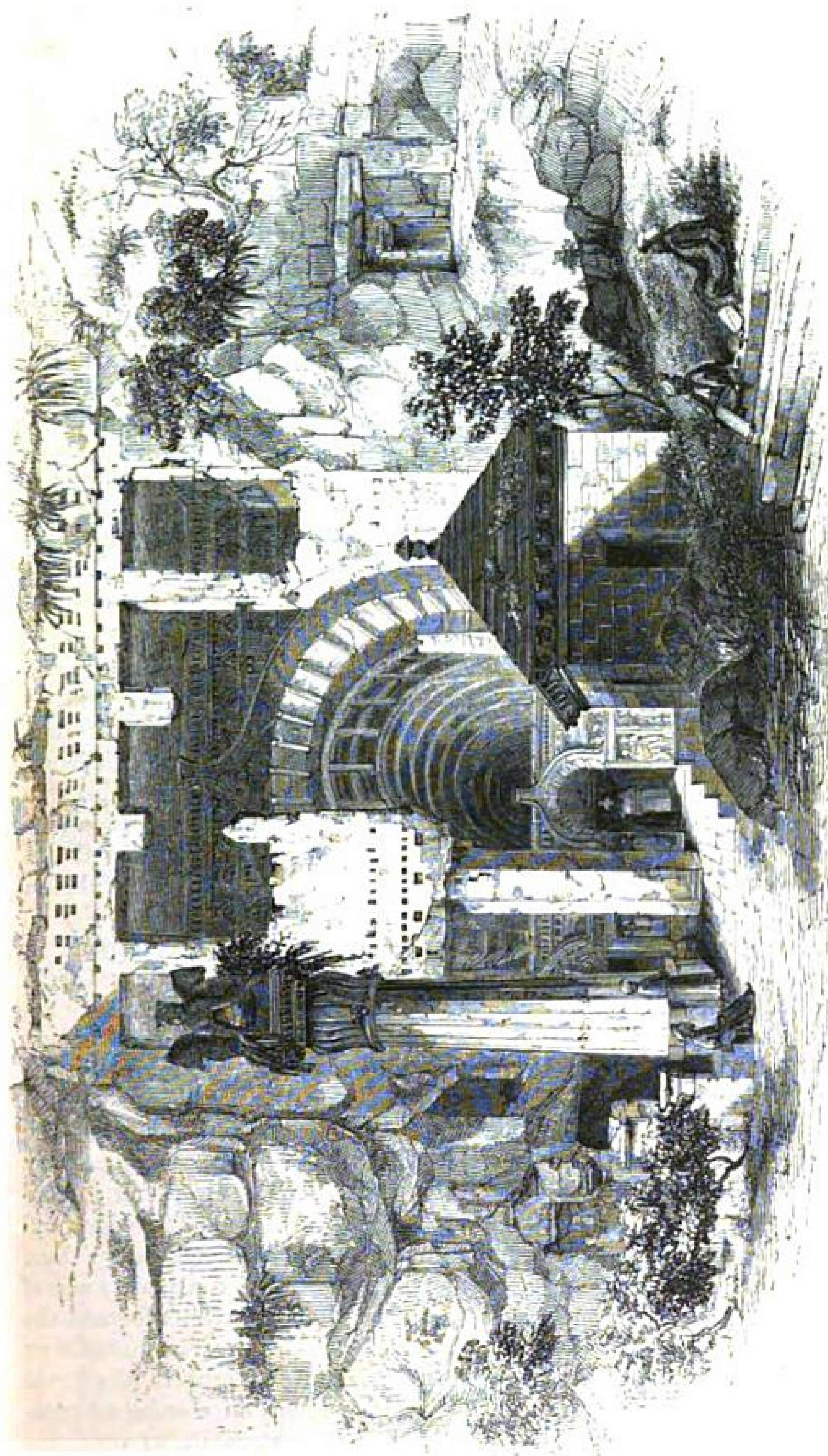


16. Section of Cave at Karli. Scale 50 ft. to 1 in.



17. Plan of Cave at Karli, double the usual size.

The building, as will be seen by the annexed illustrations, resembles to a very great extent an early Christian church in its arrangements; consisting of a nave and side aisles, terminating in an apse or semi-dome, round which the aisle is carried. The general dimensions of the interior are 126 ft. from the entrance to the back wall, by 45 ft. 7 in. in width from wall to wall. The side aisles, however, are very much narrower than in Christian churches, the central one being 25 ft. 7 in., so that the others are only 10 ft. wide, including the thickness of the pillars. As a scale for comparison, it may be mentioned that its arrangement and dimensions are very similar to those of the choir of Norwich Cathedral, or of the Abbaye aux Hommes at Caen, omitting the outer aisles in the latter buildings. The thickness of the piers at Norwich and Caen nearly corresponds with the breadth of the aisles in



View of Cave at Karli. From a drawing by Mr. Salt, corrected by the Author.

the Indian temple. In height, however, Karli is very inferior, being only 42 or perhaps 45 ft. from the floor to the apex, as nearly as can be ascertained.

Fifteen pillars on each side separate the nave from the aisles; each of these has a tall base, an octagonal shaft, and richly ornamented capital, on which kneel two elephants, each bearing two figures, generally a man and a woman, but sometimes two females, all very much better executed than such ornaments usually are. The seven pillars behind the altar are plain octagonal piers, without either base or capital, and the four under the entrance gallery differ considerably from those at the sides. These sculptures on the capitals supply the place usually occupied by frieze and cornice in Grecian architecture; and in other examples plain painted surfaces occupy the same space. Above this springs the roof, semicircular in general section, but somewhat stilted at the sides, so as to make its height greater than the semidiameter. It is ornamented even at this day by a series of wooden ribs, probably coeval with the excavation, which prove beyond the shadow of a doubt that the roof is not a copy of a masonry arch, but of some sort of timber construction which we cannot now very well understand.

Immediately under the semidome of the apse, and nearly where the altar stands in Christian churches, is placed the shrine, in this instance a plain dome slightly stilted on a circular drum. As there are no ornaments on it now, and no mortices for wood-work, it probably was originally plastered and painted, or may have been adorned with hangings, which some of the sculptured representations would lead us to suppose was the usual mode of ornamenting these altars. It is surmounted by a terminal the base of which is similar to the one shown on woodcut No. 13, and on this still stand the remains of an umbrella in wood, very much decayed and distorted by age.

Opposite this is the entrance, under a gallery exactly corresponding with our roodloft, consisting of three doorways, one leading to the centre, and one to each of the side aisles, and over the gallery the whole end of the hall is open, forming one great window, through which all the light is admitted. This great window is arched in the shape of a horseshoe, and exactly resembles the ornaments on the upper part of the terminal found at Ajunta (woodcut 13), and the arches which surmount the niches in the hall of the oldest monastery cave at Ajunta, to be described hereafter. The outer porch is considerably wider than the body of the building, being 52 ft. wide, and is closed in front by a screen composed of two stout octagonal pillars, without either base or capital, supporting what is now a plain mass of rock, but was once ornamented by a wooden gallery which formed the principal ornament of the façade. Above this a dwarf colonnade or attic of four columns between pilasters admitted light to the great window, and this again was surmounted by a wooden cornice or ornament of some sort, though we cannot now restore it, as only the mortices remain that attached it to the rock.

Still further in advance of this stands the lion-pillar, in this instance

a plain shaft with 32 flutes, or rather faces, surmounted by a capital not unlike that at Kesariah (woodcut No. 3), but in this instance it supports four lions instead of one. Another similar pillar probably stood on the opposite side, but it has either fallen or been taken down to make way for the little temple that now occupies its place.

The absence of the wooden ornaments, as well as our ignorance of the mode in which this temple was finished laterally, and the porch joined to the main temple, prevents us from judging of the effect of the front in its perfect state. But the proportions of such parts as remain are so good, and the effect of the whole so pleasing, that there can be little hesitation in ascribing to such a design a tolerably high rank among architectural compositions.

Of the interior we can judge perfectly, and it certainly is as solemn and grand as any interior can well be, and the mode of lighting the most perfect—one undivided volume of light coming through a single opening overhead at a very favourable angle, and falling directly on the altar or principal object in the building, leaving the rest in comparative obscurity. The effect is considerably heightened by the closely set and thick columns that divide the three aisles from one another, as they suffice to prevent the boundary walls from ever being seen, and, as there are no openings in the walls, the view between the pillars is practically unlimited.

All these peculiarities are found more or less developed in all the other caves of the same class in India, varying only with the age and the gradual change that took place from the more purely wooden forms of this cave to the lithic or stone architecture of the more modern ones. This is the principal test by which their relative ages can be determined, and at the same time proves incontestably that the Karli cave was excavated very shortly after stone came to be used as a building material in India.

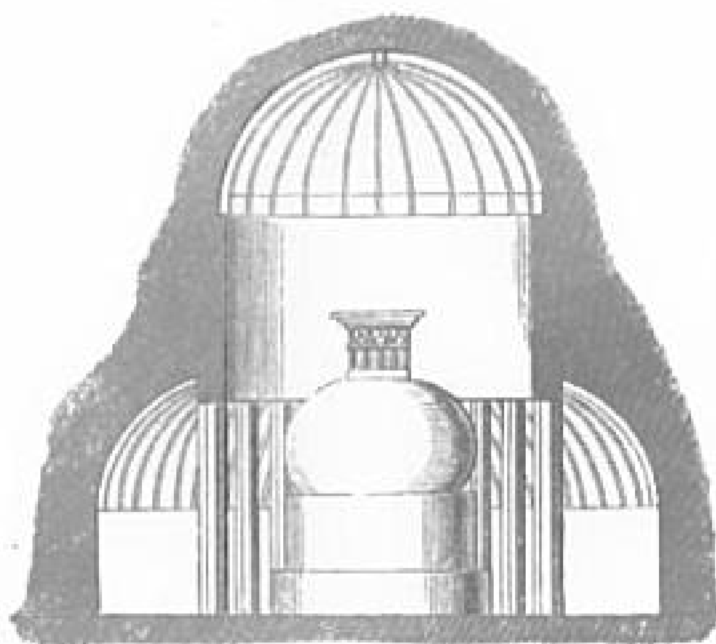
The following list, of which I have placed Karli[1] at the head for the sake of comparison, includes I believe the seven most beautiful, or at least best known, examples of this sort. There are many other cave-temples scattered through the various groups of the western ghâts, but none of them have either been drawn or described in such a manner as to allow of their being classified or even enumerated in such a work as this.

	Length.	Width.	Probable age.
Karli	126· . .	45·7 . .	1st century after Christ.
Ajunta (No. 10) . .	94·6 . .	41·3 . .	Ditto. (?)
Do. (No. 9) . . .	45· . .	23· . .	2nd or 3rd century.
Do. (No. 19). . .	46·4 . .	23·7 . .	5th century.
Do. (No. 26). . .	66·1 . .	36·3 . .	9th or 10th century.
Viswakarma Ellora . .	85·1 . .	43· . .	7th or 8th century.
Kannari	88·6 . .	39·10 . .	9th or 10th century.

As will be seen from this list, the next in age and size to Karli is

[1] The other six I have myself visited and measured.

the oldest cave at Ajunta.[1] These two caves are very similar, except that at Ajunta all the pillars are plain octagons, without either capital or base. They are stuccoed, and painted with figures of Buddha and of various saints. Above the pillars is a plain space or belt, corresponding in position to the triforium of a mediæval cathedral, ornamented with painting or with sculpture illustrative of the purposes to which the temple was dedicated. Over this rose the roof, somewhat flatter than the Karli one, but like it adorned with wooden ribs; in this instance, however, these have perished, and left only their marks and fastenings behind. But in the aisles these wooden ribs are represented by stone ones, carved out of the solid rock. This would seem to indicate an advance in style, and consequently more modern date; but the greater simplicity of other parts precludes the idea of any great difference in age. Its section will be understood by the annexed woodcut, which also explains the arrangement of all the caves, and may give us some notion of the exterior form of the buildings which these caves imitate.



19. Section of Cave No. 10, Ajunta. No scale.

The next cave, No. 9, is nearly similar to this, except in size, and has less appearance of age than its neighbour; it is, however, very much ruined, and both of them have lost their façades, from the precipice having fallen away, in the face of which they were excavated.

No. 19, at Ajunta, is one of the most perfect of the class in India, having been excavated before the style had become utterly degenerate, but after all the essential parts of the style had so long and so frequently been repeated in stone, that they had lost all the raw appearance of their wooden originals, and had in consequence become, strictly speaking, architectural features.

No. 26, though very similar to this in many respects, was excavated at too late a period to retain much purity of style, and all its details are coarse and clumsy when compared with the last; while its sculptural arrangements show such a degenerate tendency towards modern Hinduism, as to denote that the style was at its last gasp when this cave was commenced.

The well-known cave, the Viswakarma, at Ellora, occupies an intermediate place between these two. In it the style has become so completely a stone one, that, had we no knowledge of the earlier wooden originals, we might be led to suppose that many of the forms and details arose from the exigencies of construction and vaulting. It is

[1] The tee of its dagoba is drawn, woodcut No. 13; a view of its interior is given in the Illustrations of the Rock-cut Temples of India, plate iii.

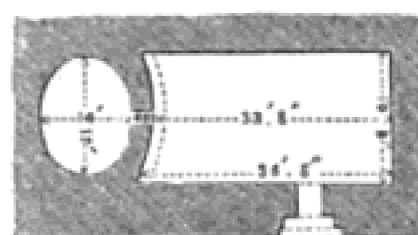
certain from the earlier examples that this was not the case, for we are able in every detail to trace the transition from wood to stone, without missing a single link of the chain of evidence.

The last cave mentioned in the list, that of Kannari, at Salsette, near Bombay, is, I am convinced, for reasons stated at length elsewhere,[1] merely a copy of the Karli cave, executed at a time when Buddhist art had greatly decayed, and mere copying had taken the place of orignal design and thought. It resembles its great prototype in every respect, both externally and internally, except in such a complete degradation of style as to form a puzzle to an antiquary on any other hypothesis than the one suggested above.

Besides these, several of the Behar caves are perhaps entitled to be called cave-temples, though, never having had an opportunity of visiting them myself, and no correct or detailed drawings of them having yet been published, I speak with considerable diffidence regarding them.

The most interesting of them, architecturally at least, is that called the Lomas Rishi, the only one of the group that possesses an architectural façade. It is covered with an inscription which, if authentic and coëval, might induce us to ascribe it to the fourth century; every detail, however, betrays so distinctly its wooden origin, that it must be earlier—perhaps even before the Christian era—and therefore the earliest we are acquainted with. All the peculiarities of the wood are so literally copied in the rock, that if drawn in detail we should have no great difficulty in restoring the original built form from what we find here.

The arrangements of this cave are very peculiar, and differ from those of Western India in many respects. As will be seen from the annexed plan,[2] the doorway with the architectural façade is at the side instead of the end; and the innermost part or shrine, instead of being a copy of the exterior of a tope, is here a domical chamber, capable of receiving a relic or any other sacred thing for which such a sanctuary might be used.



20. Lomas Rishi Cave.

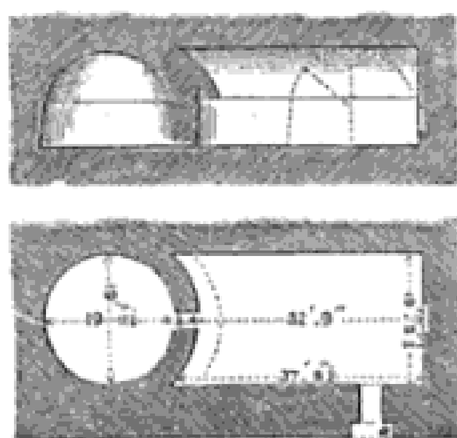
This peculiarity is so interesting, and so illustrative of the original form of these caves, that I have given a plan and section of another, the Sat Gurbha cave (woodcut No. 21), which is very similar to that last described both in size and arrangement, but with the shrine somewhat differently arranged. These caves receive no light except through the narrow entrance at the side, so that the interior is nearly dark, and that of the innermost chambers quite so.

The Sat Gurbha cave is perfectly complete and polished throughout, while the Lomas Rishi is not, as it was apparently never quite

[1] Illustrations of the Rock-cut Temples of India, by the author, to which I must refer for further particulars and illustrations of all these examples.

[2] From one published by Capt. Kittoe, in an interesting paper on the caves in the May number of the J. A. S. B. for 1847, from which the woodcuts are taken.

finished internally; and as both caves are excavated in Syenitic granite of the hardest and most compact character, the labour they must have required will almost bear comparison with that bestowed on their larger and more ornate rivals in the west. Their age, however, renders them still more deserving of attention; for if I am not very much mistaken, they are the oldest of their class in India, and the germ of what we find developed so fully at Ajunta and Ellora. From the inscriptions they appear to belong to the age of Dasaratha, the grandson of Asoka, and consequently to the second century B.C., or thereabouts.



21. Sat Gurbha Cave.

One very curious peculiarity of these, the earliest caves in India, is, that they only, of all the buildings or caves of that country, possess the sloping doorway, narrower at the top than at the bottom. This shape is usually called Egyptian; which, though not found in that country, does exist in Ethiopia, in Etruria, in ancient Greece, and Asia Minor. It is remarkable that these are precisely the countries in which traces of the Pelasgic race are most certainly to be found. We must content ourselves here with pointing out the fact that similar traces are here found in the earliest of all the specimens of Buddhist architecture, and that we find in conjunction with these sloping jambs the honeysuckle ornaments of the Ionic order, which the Greeks certainly imported from Asia, and which as certainly came to India from the west. Much of course remains to be done before these inquiries can lead to any satisfactory conclusion; but we now at least know that the path is open, and that important discoveries must eventually reward the earnest explorers of these hitherto neglected antiquities.

Monasteries.

It is probable that the cave-monasteries differ far more widely than the temples from their built originals. The number of priests in the most flourishing times of Buddhism appears to have been enormous. Its records show that it must have exceeded that of Roman Catholic monks in the middle ages. In fact no religion probably ever indulged in a more excessive priesthood, and none ever more certainly sank beneath the weight of its indolence and corruption. We may conclude from this that the number and size of the monasteries was very great: and we have reason to believe, both from descriptions and tradition, that many of them were buildings of several stories in height. It is true that we have very slight traces of this in the cave-monasteries; for in most instances, even where we find them in two or three stages, one above the other, they are distinct excavations and have no connection one with another. The caves are moreover limited by the necessity of admitting light from the front only; and none of them contain more than a central hall with its surrounding cells. Nor of

course do the caves give any idea of what the exterior of the originals may have been, of which therefore we can only affirm that they must have been important and imposing objects.

The general purposes of both the temples and the monasteries are perfectly well known. Any one who has seen Buddhist priests celebrate either matins or vespers, or some of their more pompous ceremonies, will at once understand the use of every part of the edifices we have been describing. To those who have not witnessed these ceremonies, it will suffice to say that in all the principal forms they resemble those of the Roman Catholics. It is beside the purpose of this work to trace the source of this resemblance, which has attracted the attention of every Roman Catholic priest or missionary who has visited Buddhist countries, from the earliest missions to China to the recent journey into Thibet of Messrs. Huc and Gabet. All they can suggest by way of explanation is, "que le diable y est pour beaucoup."

The same is true with regard to the monasteries. At the time when they were excavated, Buddhist priests were, as now, sworn to celibacy and poverty, and lived apart from their fellow-men in monasteries devoted wholly to religious observances. They shaved their heads, wore a peculiar garb, and obtained, like the mendicant friars, their subsistence principally by alms, which they collected by begging from house to house. Their principal duties were the study of the law and precepts of Buddha, and the continually recurring performance of an unmeaning ceremonial, in which the laity took no part. In some instances these ceremonies were performed within the monasteries themselves, which were all in later times provided with one or more chapels, containing images of Buddha or of subordinate saints, before which their prayers were repeated. But in earlier times, at least, the monasteries were always in the immediate neighbourhood of temples; from which we may gather that either the monasteries were mere residences, and all the services were performed in the temples; or that the great and solemn acts of worship took place in the temples, while the ordinary daily devotions were celebrated within the walls of the monasteries themselves.

It has been already said that the monasteries are far more numerous than the temples. From 700 to 800 examples are known at the present day, and probably there are many more. In age they extend from the simple unadorned cells excavated by Dasaratha, the grandson of Asoka, about 200 B.C., in the granite rocks at Behar, nearly to the time of the Mahometan conquest. The culminating point, however, of this style of art, was shortly after the Christian era; the greatest number, certainly the best, having been excavated during the first five centuries after the birth of Christ.

Bengal Caves.

The oldest caves in India are those in Behar, close to the old capital of Rajagriha; but, except the two temples already mentioned (p. 29), they are all mere cells, devoid of architectural ornament either exter-

nally or internally, generally square, and with a sloping jambed doorway. In one instance, however, the Gopi Koobha,[1] the cell is magnified into a hall 46 ft. 5 in. by 19 ft. 2 in., with semicircular ends and a curvilinear roof, the whole being most carefully polished, which, considering the hardness of the granite rock in which it is cut, makes it a work of far more labour than many of those in the West, though they are generally not only larger, but more elaborately ornamented.

The caves in the Udyagiri, near Cuttack, being cut in a far more tractable material, a fine-grained sandstone, show much more fancy and architectural magnificence in design, and consist of all the various classes and grades of such residences, from the simple cell of the solitary ascetic to the rich and populous monastery.

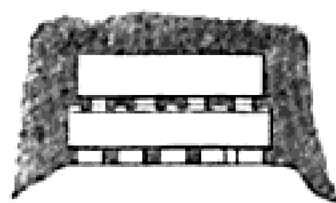
One of the most remarkable of the first class is the so-called Tiger-cave, being in fact a large mass of rock, carved into a form intended to represent the head of that animal, whose extended jaws form the verandah leading into a small apartment excavated in the interior of the skull (see woodcut No. 22).



22. Tiger Cave, Cuttack.

Generally speaking, these single cells have a porch of two pillars to protect the doorway, which leads into a small room 10 or 12 ft. square, constituting the whole cave. Buildings on precisely the same plan are still very common in India, except that now, instead of being the abode of a hermit, the cell is occupied by an image of some god or other, and is surmounted by a low dome, or pyramidal spire, converting it into a temple of some pretensions. The lower part, however, of these small temples is very similar to the rock-cut hermitages of which we are speaking.

The next extension of the cave system was to form an oblong cell with a verandah of the same length in front of it, in plan like the Ganesa cave at Cuttack (woodcut No. 23); all the larger caves at this place being either similar, or extensions of the same idea. The Thakoor cave, for instance, has a verandah 55 ft. in length, with wings extending at right angles in front of the principal façade. This cave, being two stories in height, might accommodate from 40 to 50 monks, whereas the Ganesa cave, supposing it to have been divided between each of the four doors it possesses, could only accommodate four or five.



23. Ganesa Cave.
Scale 100 ft. to 1 in. From a plan by the Author.

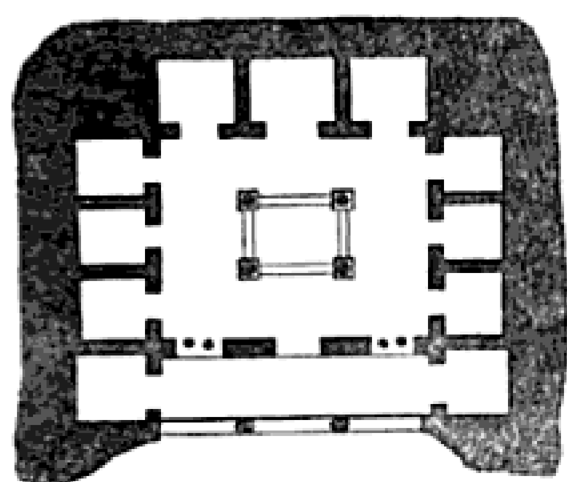
[1] For particulars of these caves I am indebted to several papers, by Capt. Kittoe, in the J. A. S. B., March, May, and September, 1847, from which the woodcut is taken.

In none of these caves is there seen either a shrine or any place where one could be placed; the probability, therefore, is, that they were attached to some sacred edifice which has long since disappeared. Another peculiarity, showing that they must have been constructed before the Christian era, is, that no trace of a sanctuary is found, nor any image of Buddha or of saints. The only actual worship of which there is any trace is that of the Bo-tree, represented on one bas-relief in a cave called the Jodeo Gopa, proving how early that worship was introduced, and how pre-eminent it was among Buddhists in those days.

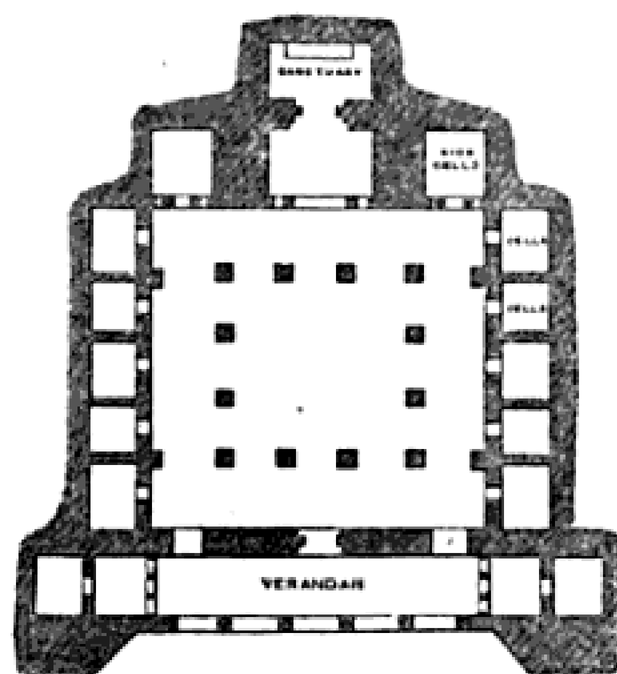
WESTERN CAVES.

Among the various groups of caves in the Bombay Presidency we find counterparts of all those existing in Bengal; but the former caves generally speaking have assumed a shape which makes a marked distinction between them and the older caves of Bengal. This consists in separating the cells from the hall around which they are placed—an arrangement, I believe, unknown in Eastern India. The oldest cave-monastery at Ajunta is a hall 36 ft. 7 in. square. It is adorned with seven niches on every side, arched in a horse-shoe shape like the great window at Karli. Of these seven niches the first, third, fifth, and seventh are blank. The remaining three are occupied in the inner sides by doors leading to cells, of which there are thus nine, on the outer side by the entrance-door and two windows.

It is evident, however, that it requires the stratum of rock in which the cave is excavated to be singularly perfect to admit of such a surface being left wholly without support. The next step, therefore, seems to have been to introduce 4 pillars on the floor, which is done at Ajunta in the cave No. 11, next in age and situation to the one last described,



24. Cave No. 11, at Ajunta.
From a plan by the Author. Scale 50 ft. to 1 in.



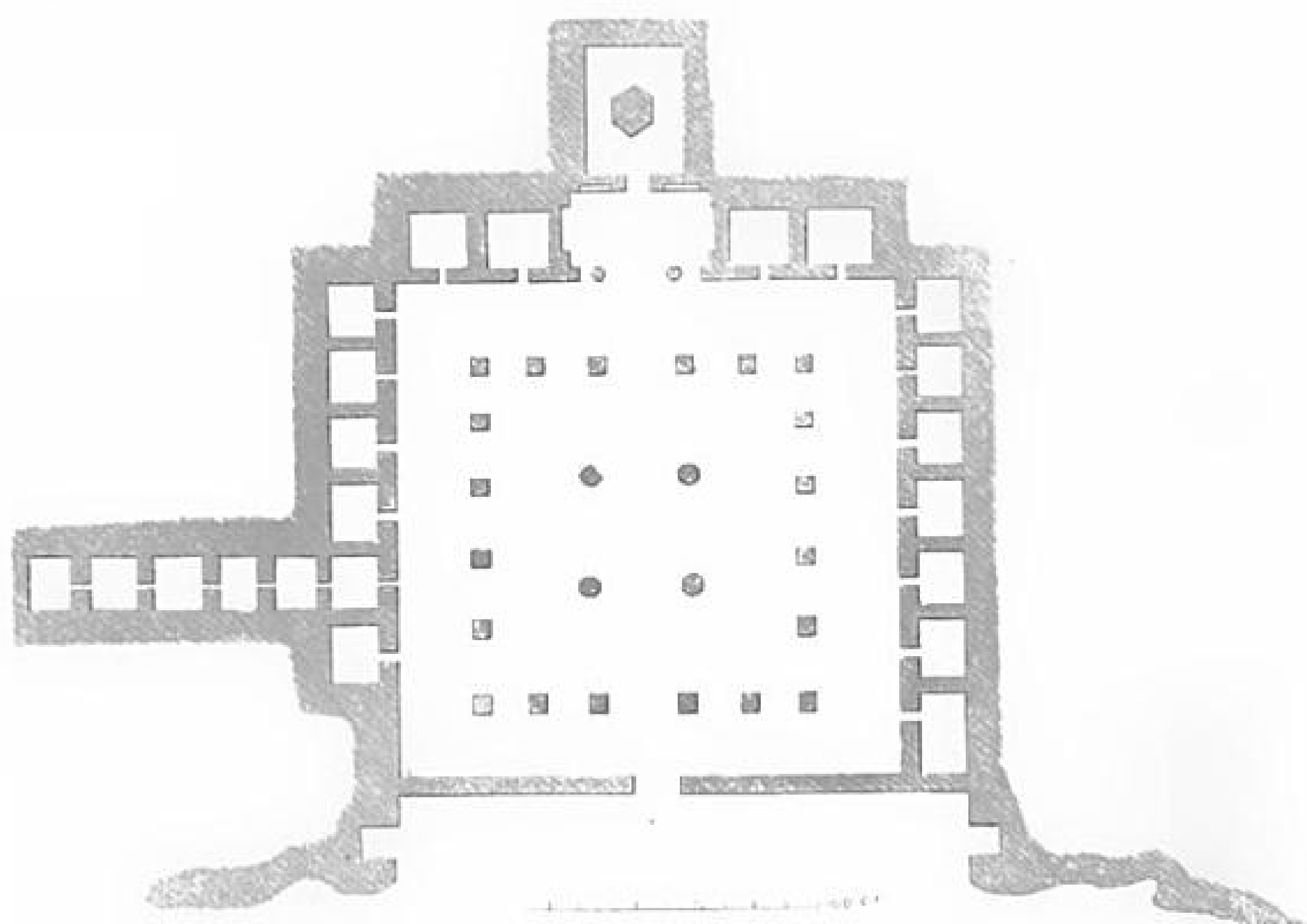
25. Cave No. 2, at Ajunta.
From a plan by the Author. Scale 50 ft. to 1 in.

which, though the area is not larger, has this necessary adjunct arranged as shown in the annexed diagram (woodcut No. 24).

The next step was to introduce 12 pillars to support the roof, there being no intermediate number which would divide by 4, and admit of an opening in the centre of every side. This arrange-

ment is shown in the woodcut No. 25, representing the plan of the cave No. 2 at Ajunta. Before this stage of cave architecture had been reached, the worship had degenerated considerably from its original purity; and these caves always possess a sanctuary containing an image of Buddha. There are frequently, besides this, as in the instance under consideration, two side chapels, like those in Catholic churches, containing images of subordinate saints, sometimes male, sometimes female.

The next and most extensive arrangement of these square monastery-caves is that in which 20 pillars are placed in the floor so as to support the roof, 6 on each side, counting the corner pillars twice. There are several of these large caves at Ajunta and elsewhere; and one at Baugh, on the Tapty, represented in woodcut No. 26, has, besides the ordinary complement, 4 additional pillars in the centre, a precaution taken evidently in consequence of the rock not being sufficiently homogeneous and perfect to be able to support itself without this additional precaution.

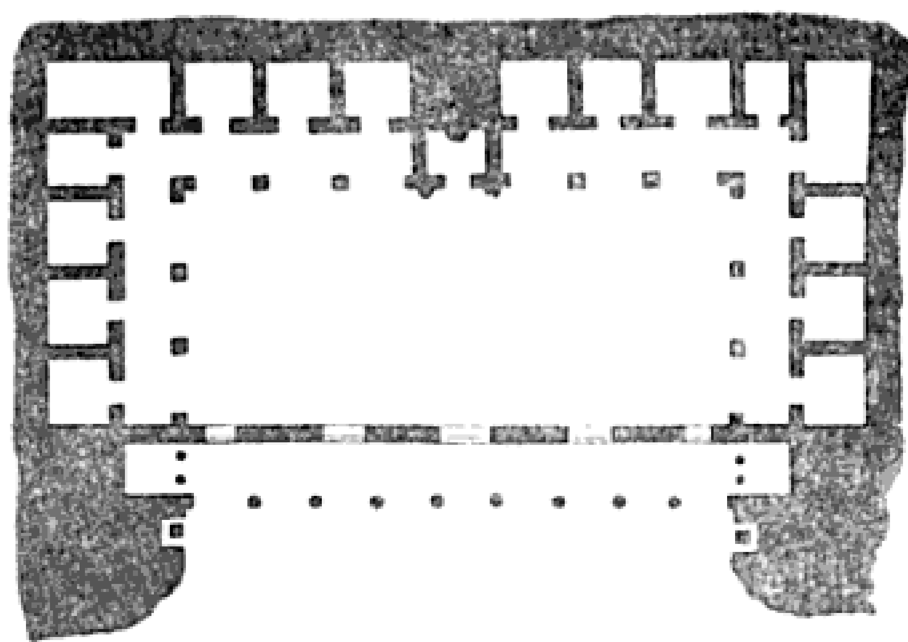


26. Cave at Baugh.
From a plan, by Capt. Dangerfield, in the Transactions of the Bombay Literary Society.

These—which might be classed, according to the terms used in Greek architecture, astylar, when having no pillars; distyle, when with two pillars in each face; tetrastyle, with four; and hexastyle with six—form the leading and most characteristic division of these excavations, and with slight modification are to be found in all the modern series.

The forms, however, of many are so various and so abnormal, that it would require a far more extended classification to enable us to

describe and include them all. In many instances the great depth of the cave which this square arrangement required was felt to be inconvenient; and a more oblong form was adopted, as in the plan of the Durbar cave at Salsette (woodcut No. 27), where, besides, the sanctuary is projected forward, and assists, with the pillars, to support the roof. In some examples this is carried even further, and the sanctuary, standing boldly forward to the centre of the hall, forms in reality the only support. This, however, is a late arrangement, and must be considered more as an economical than an architectural improvement. Indeed the dignity and beauty of the whole composition are almost entirely destroyed by it.



27. Durbar Cave, Salsette. From a plan by the Author. Scale 50 ft. to 1 in.

ORNAMENTATION OF THE CAVES.

The principal mode of embellishment adopted in these caves was painting, if not exactly in fresco, at least in some sort of distemper. In many, indeed in most instances, the plaster with which the walls were prepared to receive the coloured decorations has peeled off, owing either to the dampness of the rock, or to the mischievous violence of idle men. In some of the caves, however, at Ajunta and elsewhere, the paintings still remain nearly complete, and as fresh as the day they were painted. A competent artist, Captain Gill, of the Company's Service, has been employed for some years in copying these. When the series is complete they will not only form a most valuable illustration of Buddhist history and tradition, and of the manners and customs of India more than a thousand years ago, but they will illustrate to a very considerable extent the form and ordinance of the very buildings they adorn, as many representations of architectural objects are interspersed among the figured subjects, quite sufficiently well drawn to be understood by those who are familiar with the style they belong to.

In some of the older caves not only the walls and roof, but even the pillars, are wholly covered with stucco, and ornamented with painting. This painting is divided, generally speaking, according to the following rule. On the walls are extensive compositions of figures and landscapes; on pillars, single detached figures, representing either Buddha or Buddhist saints; while the paintings on the roof are almost invariably architectural frets and scrolls, often of extreme beauty and elegance, rivalling many of those at Pompeii and the Baths of Titus. This threefold division is in fact the only one admissible in good taste,

or only with the slightest possible modification where figures and conventional ornaments are to be combined.

At a later period many of the ornaments which had been painted on the earlier pillars came to be carved on them in relief, as happened in Europe in the transition from the Norman to the Gothic style. The pillars were naturally the first to undergo this transformation, but it was extended in some instances to the walls, and even to the roofs. In some cases there still exist traces of painting on these engraved ornaments, but it seems that in the last ages of the style the architects were satisfied with the effect produced by the light and shade of bold reliefs, and abandoned colour, to a considerable extent at least, if not altogether.

There is abundance of evidence to prove that stucco and paint were used at an early age for the adornment of the external faces of the caves; and traces of this still exist at Karli and elsewhere. In such a climate they must soon have been found perishable and unsuited to the purpose, and therefore abandoned. One of the most frequent subjects for this art is the front or principal feature of the temple itself.

This, perhaps, will be best understood by referring to the Roman or Italian style, where windows are constantly ornamented with small temple ends, or pediments, and blank spaces filled up either with blind windows crowned by pediments, or with similar forms used as niches. So at Karli (woodcut No. 18) we find all the plain faces of the hall covered with niches representing the great façade of the temple itself; and in the later caves at Ajunta these niches are always filled with cross-legged figures of Buddha or similar representations.

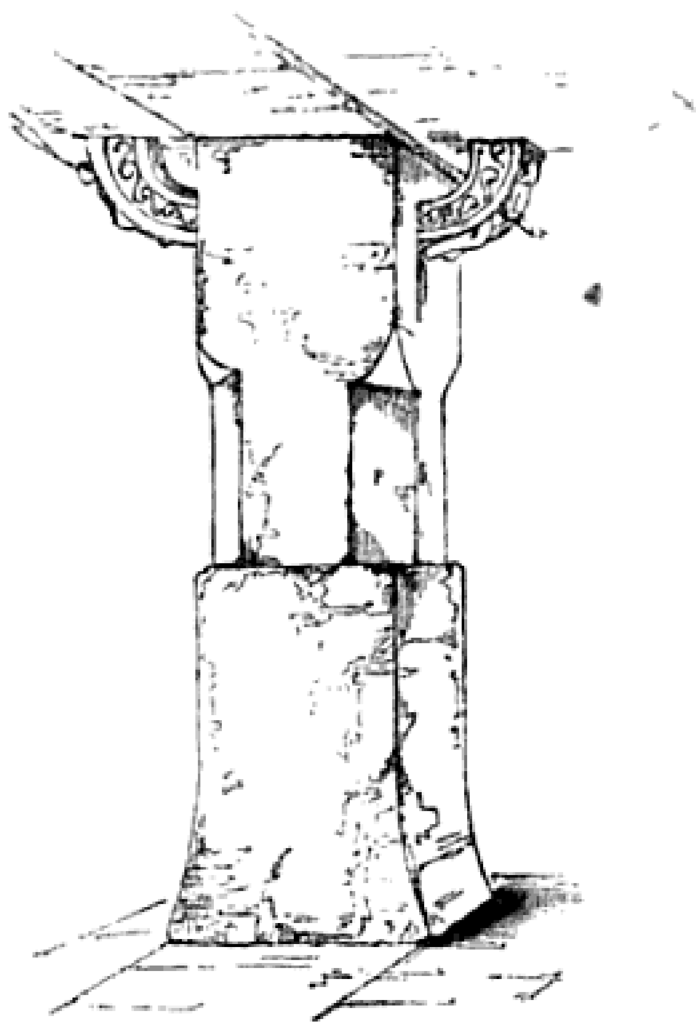
Where raised or architectural forms are used for the roofs, they are mere repetitions in stone of the wooden forms universally prevalent in India at the present day, and as common apparently then as now. The mode of construction is to lay large square beams, a foot or more square, parallel to one another, and two or three feet apart, crossed by smaller timbers, about three inches square, at such distances, say one foot, as will allow tiles to be laid upon them; these are covered with a bed of concrete and plaster, which forms a solid and impervious terrace-roof.

Pillars.

The only objects requiring further notice before leaving this branch of the subject are the pillars, which in India seem never to have been of wood, and are indeed the only parts of the architecture which do not show most unmistakeable evidence of their timber origin. My own impression is that this arose from the white ants being then, as now, the certain destroyers of any wooden object which touched the earth, and from the consequent necessity that has always existed of placing some indestructible barrier between them and those parts which must necessarily be constructed of wood.[1]

[1] To an European architect this may seem a strange and insufficient explanation of the fact; but I think most of those who have resided in India will acknowledge its validity. At all events, I can suggest no better of a fact whose universality, whatever the cause may be, admits of no doubt.

In the earliest caves, as was no doubt the case in the earliest buildings, the pillar is a square mass, from four to six diameters in height. This is brought within the domain of architecture by cutting off the angles, so as to reduce it to an octagon. In the oldest temple at Ajunta this is done for the whole height; but a more common practice is to reduce only the central part to an octagonal form, leaving the base and capital square, as in the example from the Ganesa cave at Cuttack (woodcut No. 28).



28. Pillar in Ganesa Cave, Cuttack. From a sketch by the Author.

This system is carried to a greater extent by again cutting off the angles of the octagon, so as to produce a shape of 16 sides; and these are sometimes fluted, as in the example on the next page from one of the monasteries (No. 17) at Ajunta. It shows also the construction of the roof explained above, consisting of larger and smaller beams, crossing one another at right angles, so as to support the tiles of the flat roof. In this example only the central part of the pillar is adorned with painting, the plainer members being covered with stucco, but each fluting is filled with a scroll intermixed with flowers, beautifully painted, and the discs, which are introduced where the form changes from a square to a figure of 16 sides, are also coloured.

In the third example (woodcut No. 30) the pillar changes regularly from 4 to 8 and 16 sides; then, as is frequently the case, a circular member is introduced, and it returns through the octagon to the square which supports the bracket, forming a whole which may be considered as the typical order of Indian architecture; the division into 4, 8, and 16 parts pervading every member of it, and the ornaments in this instance, both sculptured and coloured, being continued with increasing richness from the base, or near it, to the capital.

These, and indeed most Indian pillars, terminate upwards in a bracket capital, more or less developed. In woodcut No. 28 the capital is only a wooden ornament repeated in stone, this being one of the oldest examples in India. In the next example it is more important, and in the last fully developed; though in many instances it is both wider and deeper, and more important than even in this example.

In all these instances it will be observed that the ornament is not, as in Grecian and Roman architecture, confined to the base and capital; but when ornament is attempted in India, it is nearly equally distributed over the whole surface of the pillar, from the ground to the horizontal member it is destined to support. This is a peculiarity which gives singular richness to some of the buildings, and when

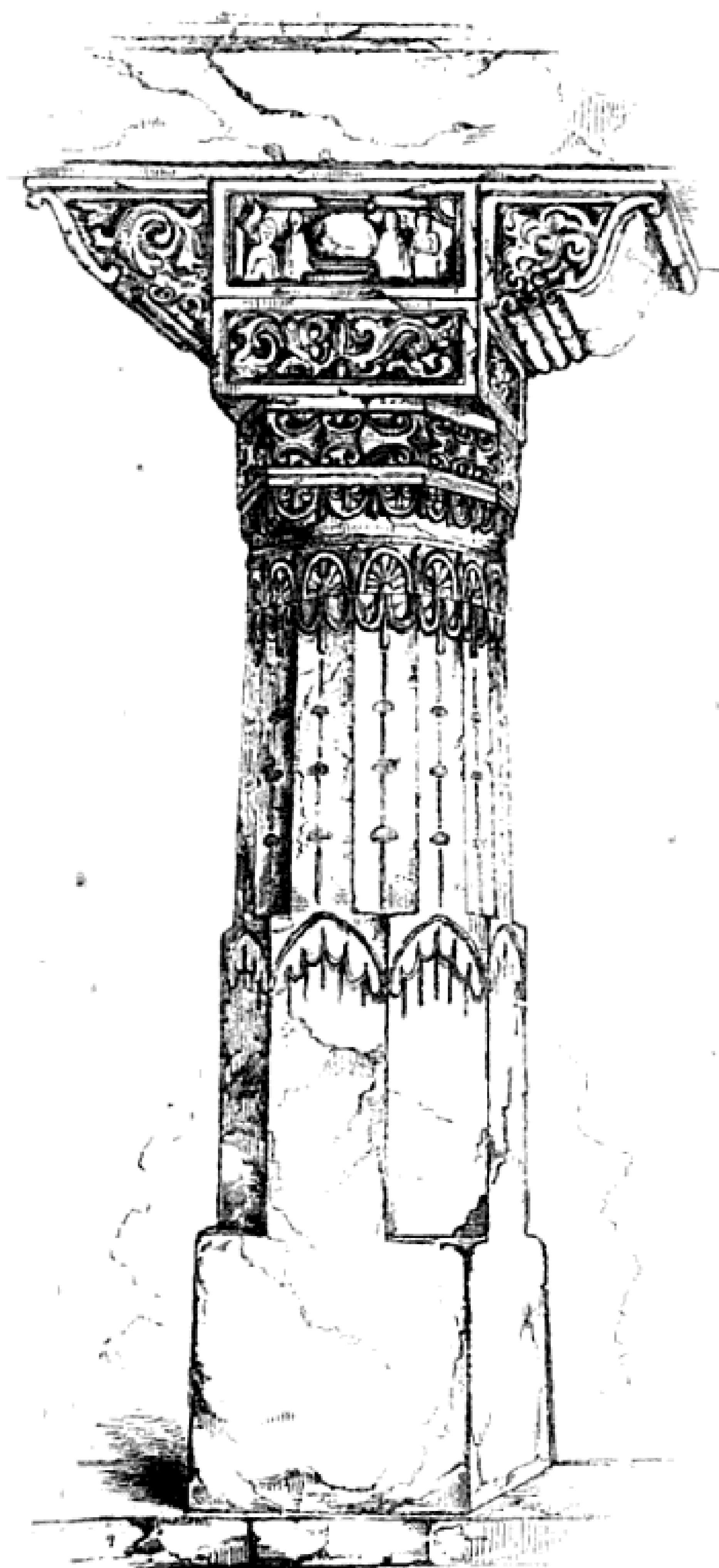
executed with taste is particularly effective, for internal architecture at least.

Another circumstance which gives considerable richness to the style is, that the pillars in a building are never exactly alike, but varied in design according to their position, or, as often happens, for the mere sake of variety. In some of the older and simpler caves, where there is little or no carving on the pillars, the variety is in the painting, and that only; but when they are carved, the variations are much more striking.

29. Pillar in Vihara No. 17, at Ajunta. From a sketch by the Author.

In a 20-pillared vihara, for instance, the two pillars on each side of the entrance are generally alike; so are those immediately beyond on the right and left; and so again are the next pair further removed on each side from the centre. The range on the right and left generally take their character from the last two, and those on the fourth side again increase in richness towards the centre, the two most elaborately adorned being the central pair opposite the altar. When done symmetrically in this manner, the effect is singularly pleasing, though the practice cannot be defended when mere caprice seems to guide the hand of the designer. It then requires that the variation should be so slight

as not at first sight to be apparent, or the effect is far from pleasing. In all the best Indian examples, however, these defects seem to have been avoided with singular taste and judgment.



30. Pillar at Ajunta. From a sketch by the Author.

CHAPTER III.

CEYLON.

CONTENTS.

Description of ruins at Anuradhapoora — Ruins at Mehentele — Great monastery and sacred tree at Anuradhapoora — Ruins of Pollonarua.

CHRONOLOGICAL MEMORANDA.

	DATES.
Devenampiatissa, contemporary with Asoka. Introduction of Buddhism to Ceylon. Building of Thuparamya Tope, and that at Mehentele, &c.	B.C. 250
Dootoogamoni. Building of Ruanwelle Tope, and Maha Lowa Paya Monastery.	161
Walagambahu builds Abayagiri	B.C. 104
Abha Sena builds Lanka Ramaya	A.D. 231
Maha Sena builds Ietawana Tope	275
Pandu: invasion from Cashmeer	434
Aggrabodhi changes capital to Pollonarua.	769
Wejayabahoo, capital Dambadinia	1235

It will have been observed that none of the remains of Buddhism in India are found in the great cities. We are enabled to judge of the greatness and splendour of the buildings which have there perished from the ancient capital of the island of Ceylon, which still retains, though in ruins, the greater part of the religious monuments that adorned it in the days of its greatness.

Anuradhapoora became the capital of Ceylon about 400 years before Christ, or about a century and a half after the death of Buddha, and the fabled introduction of his religion into the island. It was not, however, till after the lapse of another 150 years that it became a sacred city, and one of the principal capitals of Buddhism in the East, which it continued to be till about the year 769, when, owing to the repeated and destructive invasions of the Malabars, the capital was removed to Pollonarua. That city flourished for two centuries; and after that, during a long period of disastrous decay, the seat of government was moved hither and thither, till the country fell into the hands of the Portuguese and Dutch, and finally succumbed to our power.

The city of Anuradhapoora is now totally deserted in the midst of an uninhabited jungle. Its public buildings must have suffered severely from the circumstances under which it perished, exposed for centuries to the attacks of foreign enemies. Besides this, the rank vegetation of Ceylon has been at work for 1000 years, stripping off all traces of plaster ornaments, and splitting the masonry in many places.

But the very desolation of its situation has preserved these ancient monuments from other and greater dangers. No bigoted Moslem has pulled them down to build mosques and monuments of his own faith;

no indolent Hindu has allowed their materials to be used for private purposes or appropriated as private plunder; and no English magistrate has yet rendered them available for mending station-roads and bridges. We may be sure, therefore, that these ruins deserve the greatest attention from the student of Buddhist architecture, and that a vast fund of information may be drawn from them when once they shall have been sufficiently explored and described.

For ten centuries Anuradhapoora continued the capital of Ceylon. Alone of all Buddhist cities it retains something like a complete series of the remains of its greatness during that period. We possess, moreover, in the Mahawanso and other Ceylonese scriptures, a tolerably authentic account of the building of all these monuments, and of the purposes to which they were dedicated.

Among the vestiges of former grandeur still to be found at Anuradhapoora, are the ruins of seven dome-shaped topes or *dagobas*, of one monastery, of a building erected to contain the sacred Bo-tree, and several other ruins and antiquities. Among these is the great mound, called the tomb of the usurper Elaala, but more probably it is a tope erected by the king Dootoogamoni to commemorate the victory over that intruder which he gained on this spot about the year 161 B.C. As it is now a mere mound, without any distinguishable outline, it will not be again alluded to.

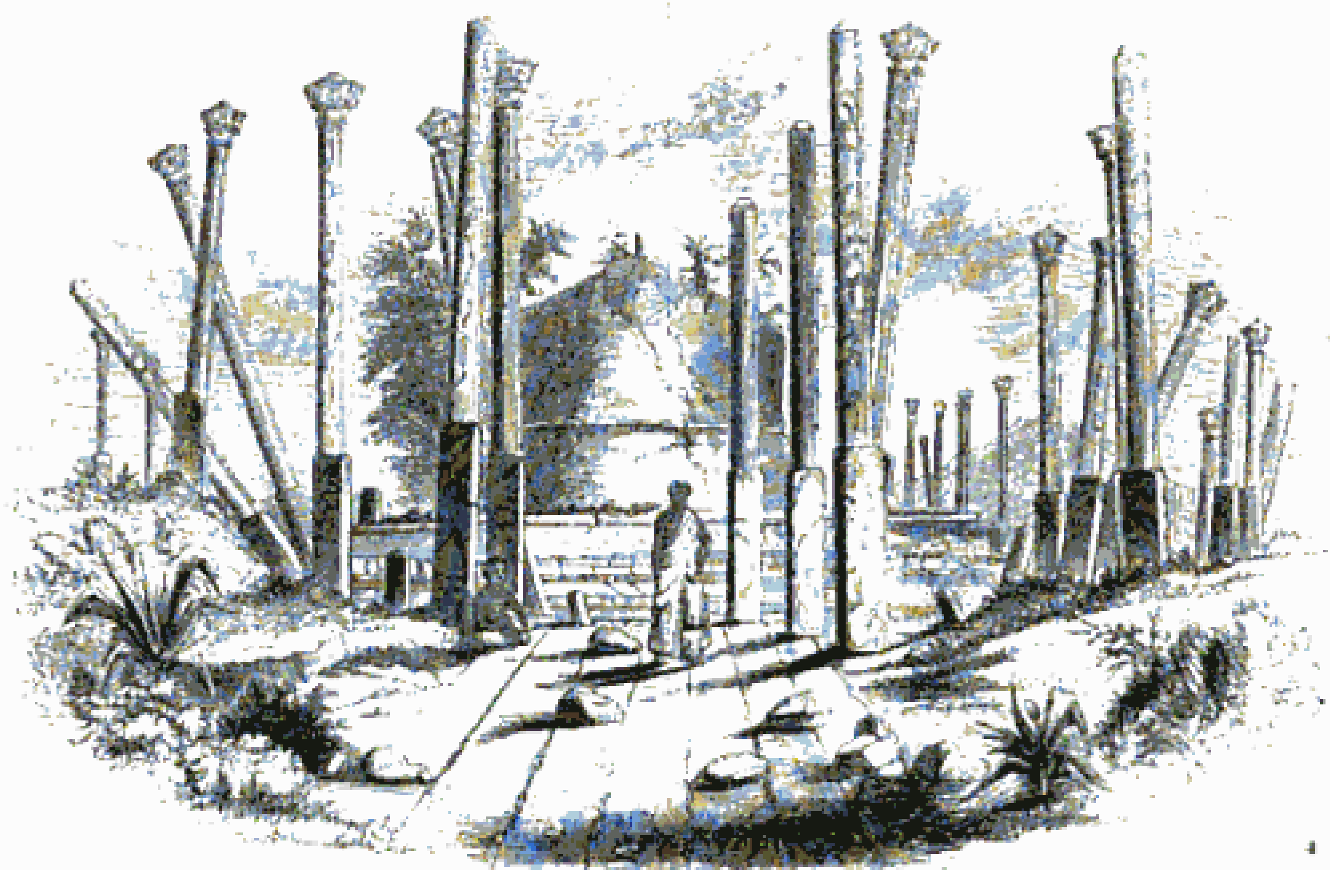
Two of the topes are of the largest size known: one, the Abayagiri, was erected 88 B.C.; its dome is exactly hemispherical, and described with a radius of 180 ft., being thus more than 1100 ft. in circumference, and with the base and spire making up a total elevation of 244 ft., which is only 16 ft. less than the traditional height of 120 cubits assigned to it in the Mahawanso.[1] It was erected by a king Walagambahu, to commemorate his reconquest of his kingdom from some foreign usurper who had deposed him and occupied his throne for about 16 years.

The second tope is the Jetawana, erected by a king Mahasen, A.D. 275. In form and dimensions it is almost identical with the last described, though somewhat more perfect in outline, and a few feet higher, owing probably to its being more modern than its rival. These two were commemorative monuments, and not relic-shrines.

Next to these, but far more important from its sacredness, is the Ruanwelle tope, erected by king Dootoogamoni, between the years 161 and 137 B.C., over a very imposing collection of relics, of which a full account is given in the 31st chapter of the Mahawanso. Its dimensions are very similar to those of the two last described, but it has been so much defaced, partly by violence, and partly, it seems, from a failure of the foundations, that it is not easy to ascertain either its original shape or size. The same king erected another smaller tope, 260 ft. in diameter. It is now known as the Mirisiwellya. Like the last described it is very much ruined, and not particularly interesting, either from its form or history.

[1] The cubit of Ceylon is nearly 2 ft. 3 in.

Besides these four large buildings there are two considerably smaller ones, known as the Thuparamya and Lanka Ramaya, very similar to one another in size and arrangement. The first named is represented in woodcut No. 31. The tope itself, though small and



31. Thuparamya Tope. From an unpublished lithograph by the late James Prinsep.

somewhat ruined, is of a singularly elegant bell-shaped outline. Its diameter and height are nearly the same, between 50 ft. and 60 ft.; and it stands on a platform raised about 9 ft. from the ground, on which are arranged three rows of pillars, which form by far the most important architectural ornament of the building. The inner circle stands about 2 ft. from the mound, and the other two about 10 ft. from each other. The pillars themselves are monoliths 26 ft. in height, of which the lower part, to the height of 9 ft., is left square, each side being about 1 ft. The next division, 14 ft. 6 in. in length, has the angles cut off, as is usual in this style, so as to form an octagon; the two parts being of one piece of granite. These sustain a capital of the same material, 2 ft. 6 in. in height.

Accounts differ as to the number of the pillars, as Mr. Knighton says there were originally 108;[1] whereas Capt. Chapman counted 149, and states the original number to have been 184.[2]

This relic-shrine was erected by the celebrated king Devenampiatissa, about 250 years B.C., to contain the right jawbone of Buddha, which—say the Buddhist chroniclers—descending from the skies, placed itself on the crown of the monarch. As contemporary with Asoka, it belongs to the most interesting period of Buddhist history, and is older than anything now existing on the continent of India so far as we at present know; and there is every reason to suppose it

[1] J. A. S. B. for March, 1847, p. 218.
[2] Transactions R. A. S., vol. iii. p. 474, and J. R. A. S.

now exists as nearly as may be in the form in which it was originally designed, having escaped alteration, and, what is more unusual in a Buddhist relic-shrine, having escaped augmentation. When the celebrated Tooth relic was brought hither from India at the beginning of the fourth century, it was placed in a small building erected for the purpose on one of the angles of the platform, instead of being placed, as seems generally to have been the case, in a shrine on its summit, and eventually made the centre of a new and more extended erection. Perhaps it was an unwillingness to disturb the sacred circle of pillars that prevented this being done, or it may have been that the Tooth relic, for some reason we do not now understand, was destined never to be permanently hid from the sight of its adorers. It is certain that it has been accessible during the last two thousand years, and is the only relic of its class that seems to have been similarly preserved and exhibited.

The Lanka Ramaya is extremely similar to the last, though considerably more modern, having been erected A.D. 221, and looks of even more recent date than it really is, in consequence of a thorough repair it has undergone within the last few years, which has nearly obliterated its more ancient features.

There is still another, the Saila tope, within the limit of the city, but so ruined that its architectural features are undistinguishable, though tradition would lead us to suppose it was the oldest in the place, even belonging to a period anterior to the present Buddha. The spot at all events is said to have been hallowed by the presence of the preceding one.

Besides these, there are on the hill of Mehentele, a few miles to the north-east of the city, two important relic-shrines: one of the first class erected on its summit to cover a hair that grew on the forehead of Buddha over his left eyebrow. The other, on a shoulder of the hill immediately below this, is of the same class as the Thuparamya; a small central building surrounded by concentric rows of granite pillars, which, as appears to have been the principle of this mode of decoration, rose to half the height of the central mound.

There are besides these a great number of topes of various sorts scattered over the plain, but whether any of them are particularly interesting, either from their architecture or their history, has not been ascertained, nor will be till the place is far more carefully surveyed than it has yet been.

There is another ruin at Anuradhapoora, which, if a little more perfect, would be even more interesting than these topes. It now goes by the name of the Maha Lowa Paya, or Great Brazen Monastery. We have a full account in the Mahawanso of its erection by the pious king Dootoogamoni (161 B.C.), according to a plan procured from heaven for the purpose, as well as a history of its subsequent destruction and rebuildings.

When first erected it is said to have been 100 cubits or 225ft. square, and as high as it was broad; the height was divided into nine stories, each containing 100 cells for priests, besides halls and other

indispensable apartments. Nearly 200 years after its erection (A.D. 30) it required considerable repairs, but the first great disaster occurred in the reign of the apostate Mahasena, A.D. 286, who is said to have destroyed it utterly. It was re-erected by his son, but with only five stories instead of nine, and it never after this regained its pristine magnificence, but gradually fell into decay even before the seat of government was removed to Pollonarua. Since that time it has been completely deserted, and all that remains of it now are the 1600 pillars which once supported it. These generally consist of unhewn blocks of granite about 12 ft. high; some of the central ones are sculptured, and many have been split into two, apparently at the time of the great rebuilding after its destruction by Mahasena; as it is, they stand now about 6 ft. apart from centre to centre in a compact phalanx, 40 on each face, and covering a space about 250 or 260 ft. each way. On this must have been placed a strong wooden framing, as in the Burmese monasteries at the present day—as explained in the next chapter; and the remaining 8 stories rose on this, one above the other, each diminishing as it ascended, so that the building assumed the outline of a pyramid. This, it is true, is not distinctly asserted in the Mahawanso, nor do the remains suffice to prove it. But we have strong evidence in favour of this supposition in the arrangement of later buildings, which there is every reason to believe were erected from this or similar models. The pyramidal shape is that adopted to this day in all Buddhist countries. If I am not very much mistaken, the many-storied Hindu temples in the south of India are literally only copies of such buildings as this. They all assume the pyramidal form, and are furnished with small cells on every story, precisely as we may suppose this to have been.[1]

The name of Brazen was applied to it in consequence of the roof of brass that covered it, and, gilt and ornamented as it no doubt was, it must have been one of the most splendid buildings of the East. It was as high as the topes, and, though not covering quite so much ground, was equal, in cubical contents, to the largest of our English cathedrals, and the body of the building was higher than any of them, omitting of course the spires, which are mere ornaments.

Its form and arrangement will be more clear when we have described, further on, the characteristics of the early Hindu style, which seems almost without doubt to have been copied from this.

To us these are the most interesting of the remains of the ancient city, but to a Buddhist the greatest and most sacred of the vestiges of the past is the celebrated Bo-tree. This is now reverenced and worshipped even amidst the desolation in which it stands, and has been worshipped on this spot for more than 2000 years; and thus, if not the

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[1] Fa Hian, in describing the great rock-cut monastery of the Deccan as it existed in his time—about A.D. 400—says it had five stories; the lower with 500 cells, the next with 400, then 300, then 200, and the upper with 100 cells. There is a good deal that is fabulous mixed with what he says about this edifice, which, besides, he never saw himself; but it is the only one he describes in such detail, and it points to a construction similar to what I have suggested in the text.—See Foe Koue Ki, p. 314 *et seq.*

oldest, is certainly among the most ancient of the idols that still command the adoration of mankind.

When Asoka sent his brother Mahindo, and his sister Sangamitta, to introduce Buddhism into Ceylon, one of the most precious things which they introduced was a branch of the celebrated tree which still grows at Gya.[1] The branch, so says the legend, spontaneously severed itself from the parent stem, and planted itself in a golden vase prepared for its reception. According to the prophecy, it was to be "always green, never growing, nor decaying," and certainly present appearances would go far to confirm such an assertion, for, notwithstanding its age, it is small, and, though healthy, does not seem to increase. Its being evergreen is only a characteristic of its species, the Ficus religiosa; our acquaintance with it, however, must extend over a longer series of years than it at present does, before we can speak with certainty as to its stationary qualities.

It grows from the top of a small pyramid, which rises in three terraces, each about 12 ft. in height, the one above and within the other, in the centre of a large square enclosure close by the Maha Lowa Paya. But though the place is large, sacred, and adorned with gates of some pretension, none of its architectural features are such as to require notice here.

POLLONARUA.

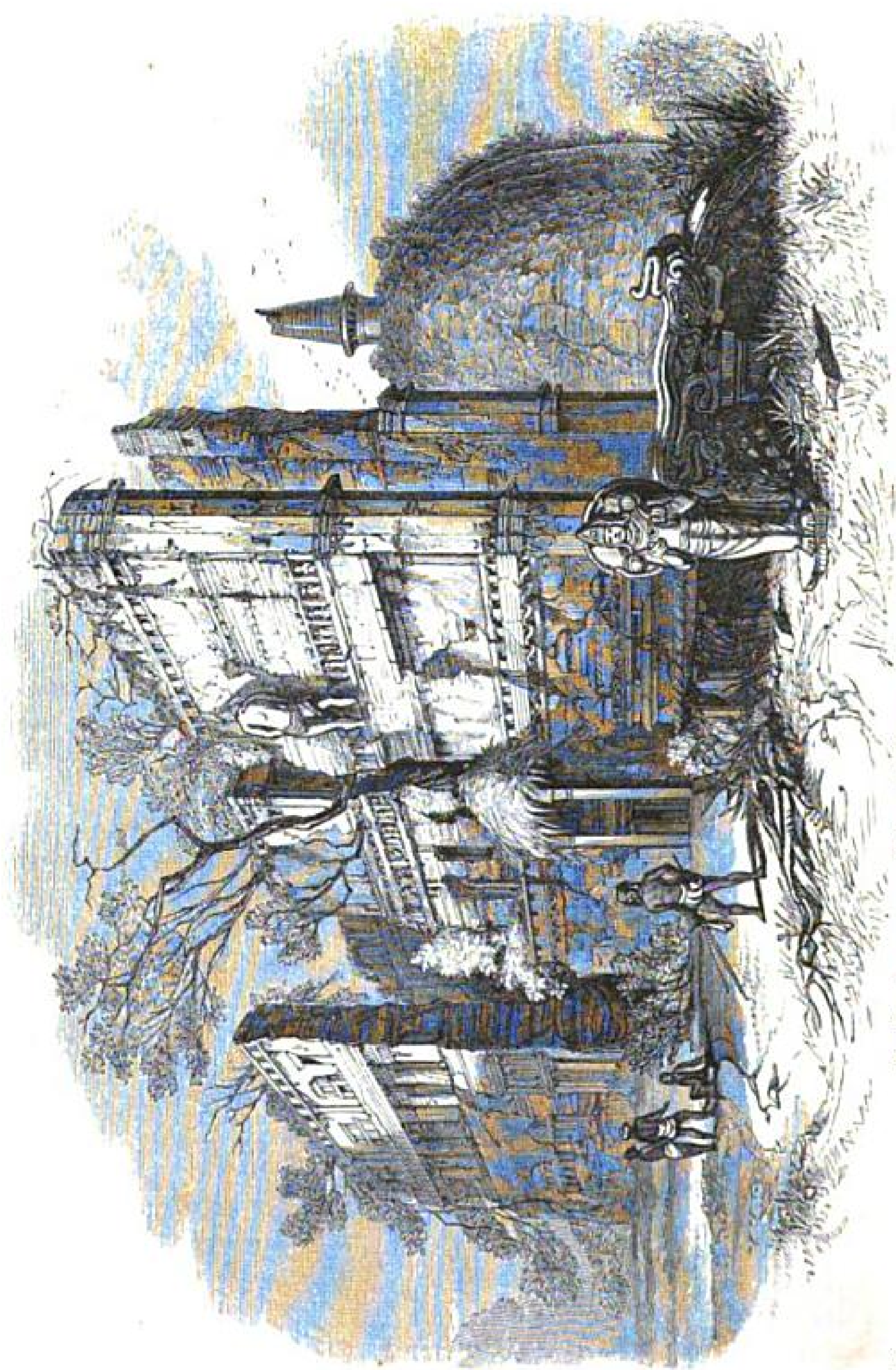
The ruins of Pollonarua, which became the capital of the island on the abandonment of Anuradhapoora in the eighth century, show considerable traces of magnificence and splendour, though of a class very different from that displayed in the older city, and far more resembling the more ornate style of the Hindus than the simpler magnificence of the earlier Buddhists. They are in fact a link between the ancient and modern styles of architecture.[2]

The ruins of this city consist principally of one long straight and terraced street, nearly an English mile in length, bordered on either side by the ruins of temples, houses, tombs, and all the accompaniments of an Eastern city. It terminates at one end in a small rocky hill, in which are cut several temples. These are ornamented with figures of Buddha, one of which is 45 ft. high, and with rich and elaborate carvings on all sides. At the other end of the street is a building represented in the annexed woodcut (No. 32), evidently a temple, though now unroofed, and differing singularly in all its arrangements from the older examples found on the continent of India. At the inner end of it is a statue of Buddha 58 ft. in height. The relic-shrine is placed on one side, as shown in the view.

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[1] Singularly enough, the natives of Behar ascribe the planting of their Bo-tree to Dootoogamoni, the pious king of Ceylon. They mistake the date, however, placing him 414 B.C.—See Buchanan Hamilton's Statistics of Behar, p. 76.

[2] The only illustrations that have yet been published are a few woodcuts in Sir Emerson Tennent's work on 'Christianity in Ceylon;' but they are only picturesque views without plans or dimensions, not available for scientific purposes. They suffice, however, to show how complete is the series of materials for a history of Buddhist art to be found in this country.



32. The Jayatawanarama—Ruins of Pollonarua. From Tennent's Christianity in Ceylon.

This temple is built with brick, and covered with stucco, and, though consequently very inferior both in material and character to the earlier edifices of the same class, is still, from its size and richness, a fine specimen of the style in its decline, and worthy to close the history of the art in the island where it had flourished for twelve centuries when this building was erected.

We know but little of the great caves of Dambool and others which lie scattered over the island. They differ from the Indian cave-temples in being natural caverns slightly enlarged and improved by art, but without having been moulded into architectural copies of buildings, as is always the case on the continent of India. What architecture they do possess is developed on applied façades of masonry, never of the same age as the caves themselves, and generally more remarkable for their grotesqueness than their beauty. Besides, the form of these caves being accidental, they want that interest which attaches so strongly to those of India, as illustrating the religious forms and ceremonies of the Buddhists in early times. Indeed, the only point of interest they now possess seems to consist in their being still used for the celebration of the same rites to which they were originally dedicated 2000 years ago.

CHAPTER IV.

BURMAH.

CONTENTS.

Forms of Burmese buildings — Dagobas at Khomadoo — Pegue — Rangoon, &c.— Monasteries.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
Rahamam, son of Asoka, begins to reign at Prome about	B.C. 243	Panya becomes the capital	A.D. 1300
Samundri Prome era established	A.D. 76	Pugan destroyed	1356
Samudda Raja begins to reign at Pugan	107	Panya and Chitkaing destroyed, and Ava becomes the capital	1364
Buddhagosa visits Ceylon	386	Alompra in Monchabo	1752

The kingdom of Burmah, lying to the eastward of Bengal, is one of those countries which, like Ceylon, received its religion direct from India, and has retained it to the present hour, although it has long ceased to exist in the country that gave it birth.

Like all Buddhist countries its authentic annals commence with the sovereigns of Central India, who were the contemporaries of Sakya Muni, the founder of the faith. There is no record even of names of native kings till we come to the all-powerful and all-pervading name of Asoka. He sent his son or grandson to this country to introduce the new faith, and to establish a regular sovereignty on the banks of the Irrawaddy, which seems at that time to have been very thinly peopled by nomade and half-civilised tribes.

The new king fixed his residence at Prome about the year 243 B.C., and that city continued the capital of the kingdom for about three centuries and a half. About A.D. 107 the seat of government was removed farther up the river to Pugan, which continued to be the capital for twelve centuries, when, in consequence, it is said, of some prophecy or evil omens, it was removed still farther up the river near its south-eastern bend, where three distinct cities, Chatkaing, Ava, and Amerapoora, situated near to one another, have enjoyed with frequent changes the distinction of being the royal residence.

At Prome we have no knowledge of any buildings of considerable antiquity or otherwise remarkable.

The remains of Pugan cover a space extending 10 or 12 miles along the river and to a depth of 4 or 5 miles inward. Our armies, during the war in 1825, passed and repassed through the place, and it is

noticed in several published narratives of journeys in the country. But our materials for a description of them are scarcely more ample than in the case of the older capital. For these accounts give us no particulars from which we can discover what peculiar characteristics Buddhism assumed in this country, or what degree of civilisation the Burmese had reached during the long period that this city maintained itself as capital of the empire.

From such materials as are available we collect that the city contains no ancient example of the great dome-like topes which form such remarkable objects in India and Ceylon. Some there are of considerable size, but they are modern, whereas the ancient ones are, if circular, of a tower-like form, probably more like those in Afghanistan than any others we are acquainted with. But the greater number of the religious edifices here seem to have been square in plan, with porticos and central chambers, and terminating upwards in octagonal or polygonal straight-lined pyramids or spires. It is not improbable that these buildings are monasteries with relic-shrines included in their precincts. It will be remembered that in the more modern caves at Ajunta and elsewhere the monastery had come to contain a chapel and place of worship in some measure independent of the temple to which it was originally subordinate.[1] The same seems to have been the case here, but carried to a greater extent. These buildings, therefore, being a distinct class from any of those hitherto described, may be properly called pagodas, by which name they are generally known.

One feature remarked by Colonel Symes,[2] and shown in several drawings, published and unpublished, is worthy of observation, which is the existence in these ruins of pointed arches of the Gothic form, coupled with vaulted apartments. This presents a peculiarity unknown elsewhere in Buddhist architecture, or indeed in any Indian style of any age ; but until we know the epoch of the buildings in which these arches are found, it is needless speculating on their existence, or guessing at the mode of their introduction. At the same time, if they are old, which it is generally supposed they are, they form the most interesting features of these edifices.

In the modern capitals of Burmah there are no religious edifices, of brick or stone, remarkable either for their size or beauty. It will be well therefore to confine what further remarks are to be made on the pagodas of the country to those specimens which seem to be the finest and best that the land possesses.

The first of these, called Khomadoo, is situated on the opposite bank of the Irrawaddy from Ava, and a short distance lower down. It is described both by Symes[3] and Crawford.[4] According to the latter authority it is 160 ft. 9 in. high, and surmounted by a spire 22 ft. in height and 15 in diameter; the circumference of its base is 944 ft., and it is surrounded by a stockade of dwarf pillars of sandstone, about 5 ft.

[1] See p. 31.

[2] Embassy to the Kingdom of Ava. London, 1800. Vol. ii. p. 247.

[3] Embassy to the Kingdom of Ava, vol. iii. p. 209.

[4] Embassy to Ava, 4to. edit. p. 200.

in height and 802 in number. Its form is nearly that of a perfect hemisphere.

From these particulars it is evident that it is extremely similar to the greater topes of Anuradhapoora, only slightly less in size, the diameter being apparently 300 instead of 360 ft. It also possesses the circumscribing circle of pillars which in Ceylon is confined to the smaller examples. Its age has not been ascertained. The natives consulted by Colonel Symes ascribed its erection to the most remote antiquity; while Mr. Crawford, from an inscription, dates it as late as A.D. 1626, probably the time of the last repair. From its form we should infer that it belongs to the earlier centuries of the Christian era; but without more details than we possess it is not easy to fix its age even approximately.

The next in importance is the great Shoëmadoo[1] pagoda at Pegue, of which a plan and elevation are given from those published by Colonel Symes in his account of his embassy to Ava. As will be seen from the woodcuts opposite, the plan deviates considerably from the circular form, which is exclusively used in all edifices of this class hitherto described. Here it approaches more nearly to those elaborately polygonal forms which are affected by all the Hindu builders of modern date. It returns, however, to the circular form before terminating, and is crowned, as all Burmese buildings of this class are, by an iron spire richly gilt.

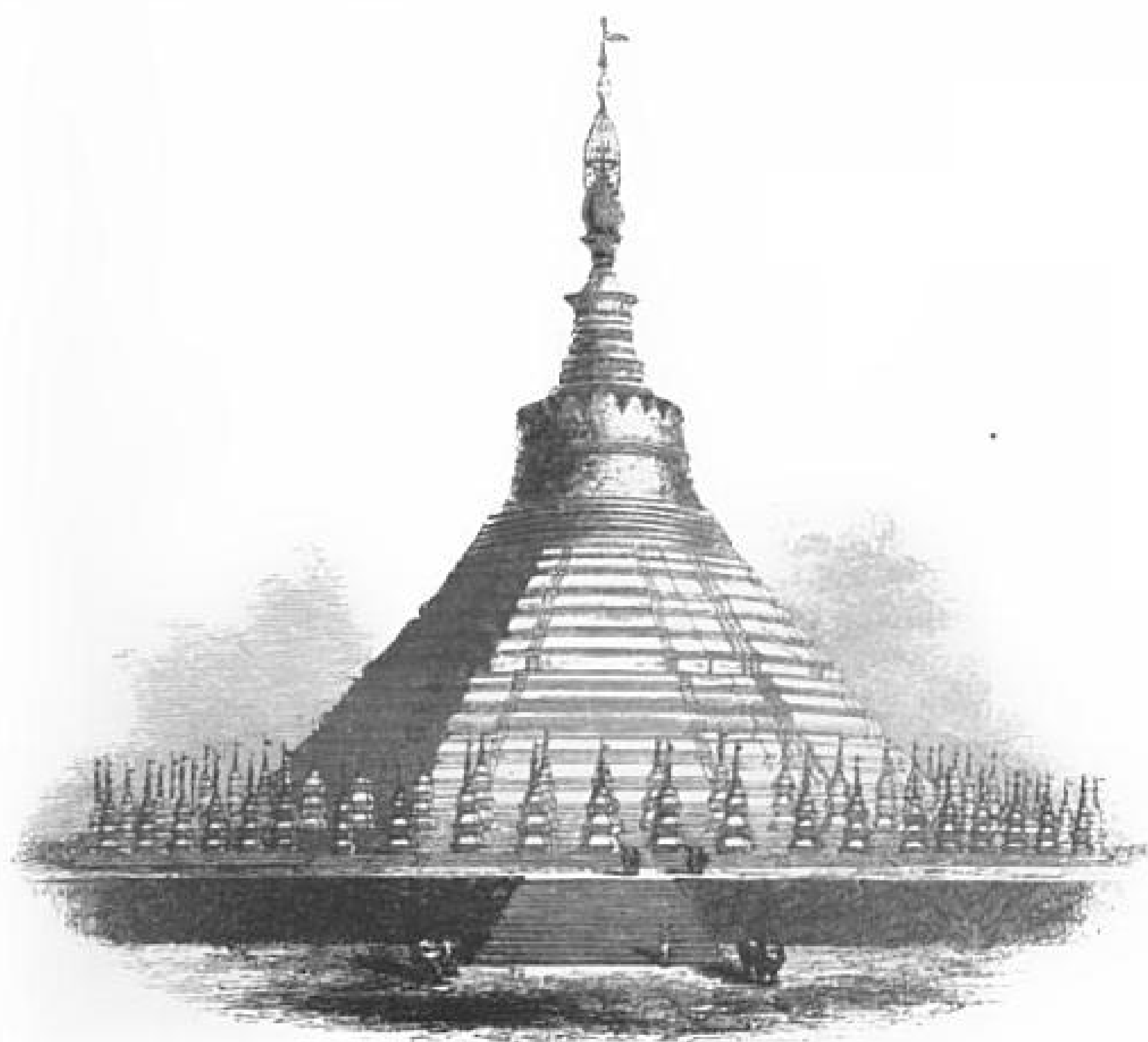
Another peculiarity is strongly indicative of its modern date; it is that, instead of a double or triple range of pillars surrounding its base, we have a double range of small models of pagodas, a mode of ornamentation that subsequently became typical in Hindu architecture; their temples and spires being covered and indeed composed of innumerable models of themselves, clustered together so as to make up a whole. As before remarked, something of the same sort occurs in Roman art, where every window and opening is surmounted by a pediment or miniature temple end, and in Gothic art, where a great spire is surrounded by pinnacles or spirelets; but in these styles it is never carried to the excess to which it goes in Hindu art. In this instance it is interesting as being one of the earliest attempts at this class of decoration.

The building stands on two terraces, the lower one about 10 ft. high, and 1391 ft. square; the upper one, 20 ft. in height, is 684 ft. square; from the centre of it rises the pagoda, the diameter of whose base is 395 ft. The small pagodas are 27 ft. high, and 108 or 110 in number; while the great pagoda itself rises to the height of 331 ft. above its terrace, or 361 ft. above the country, thus reaching a height nearly equal to that of St. Paul's Cathedral; while the side of the upper terrace is only 83 ft. less than that of the great Pyramid.

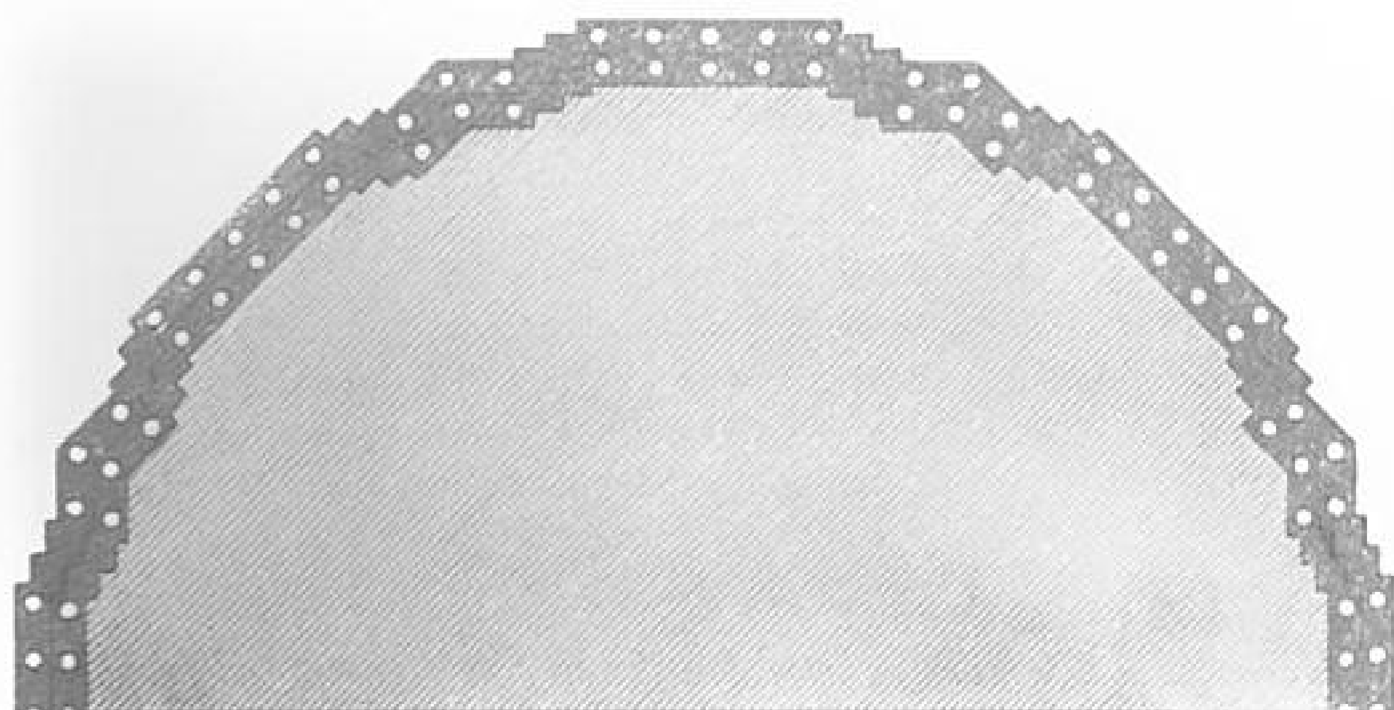
Tradition ascribes its commencement to two merchants, who raised it to the height of 12 cubits at an age slightly subsequent to that of

[1] Literally "Golden great god."

Buddha himself. Successive kings of Pegue added to this from time to time, till at last it assumed its present form, most probably about three or four centuries ago.



33. Shoëmadoo Pagoda, Pegue. From Col. Symes' Embassy to Ava.



34. Half-plan of Shoëmadoo Pagoda. From Col. Symes' Embassy to Ava. Scale 100 ft. to 1 in.

The third pagoda in importance, so far as we know, is the more generally known Shoëdagong pagoda at Rangoon, a building very similar in dimensions to the last, and by no means unlike it, except

that the outline of the base is more cut up, and the spire more attenuated—both signs of a more modern date. Its base is even more crowded by little templets than that at Pegue, and it is a few feet lower. There is, however, no essential difference between the two, and it is principally interesting as leading us one step further in the series from the solid hemispherical mound to the thin spire, which, both in this country and Siam, is the more general modern form which these edifices assume, till they lose all but a traditional resemblance to the buildings which were the originals from which they sprang.

This pagoda, like all the more important ones, is fabled to have been commenced about 2300 years ago, or about the era of Buddha himself: its sanctity, however, is owing to its containing relics, not only of the last Buddha, but also of his three predecessors—Buddha having vouchsafed eight hairs of his head to two merchants, on the understanding that they were to be enshrined with the relics of the three former Buddhas, where and when found.[1] After numerous miraculous indications, on this spot were discovered the staff of Kakusanda, believed to have lived some 3000 years before Christ, the water-dipper of Konagamma, and the bathing-garment of Kasyapa, which, with the eight hairs above-mentioned, are enshrined within this great pagoda.[2] Originally, however, notwithstanding the value of its deposit, the building was small, and it is probably not more than a century since it assumed its present form.

An immense number of smaller pagodas surround this larger one, of all sizes, from 30 ft. in height to 200 ft., and even more. There is scarcely a village in the country that does not possess one or two, and in all the more important towns they are numbered by hundreds: so that they may almost be said to be innumerable in this country. They are almost all quite modern, and so similar one to another as not to merit any distinct or separate mention. They indicate, however, a degree of increasing wealth and power in the nation, from the earliest times to the present day, and an increasing prevalence of the Buddhistical system. This is a direct contrast to the history of Ceylon, whose hour of greatest glory was in the earlier centuries of the Christian era, and was passing away more than 1000 years ago, at a time when the architectural history of Burmah first dawns upon us. Thus the buildings of one country are an exact continuation to those of the other, and together they present a series of examples of the same class ranging over more than 2000 years, reckoning from the oldest topes in Ceylon to the most modern in Burmah.

Monasteries.

As Burmah is a country in which the monastic system of Buddhism flourishes at the present day to the fullest extent, if we had some information regarding its monasteries, or *kioums* as they are called, it

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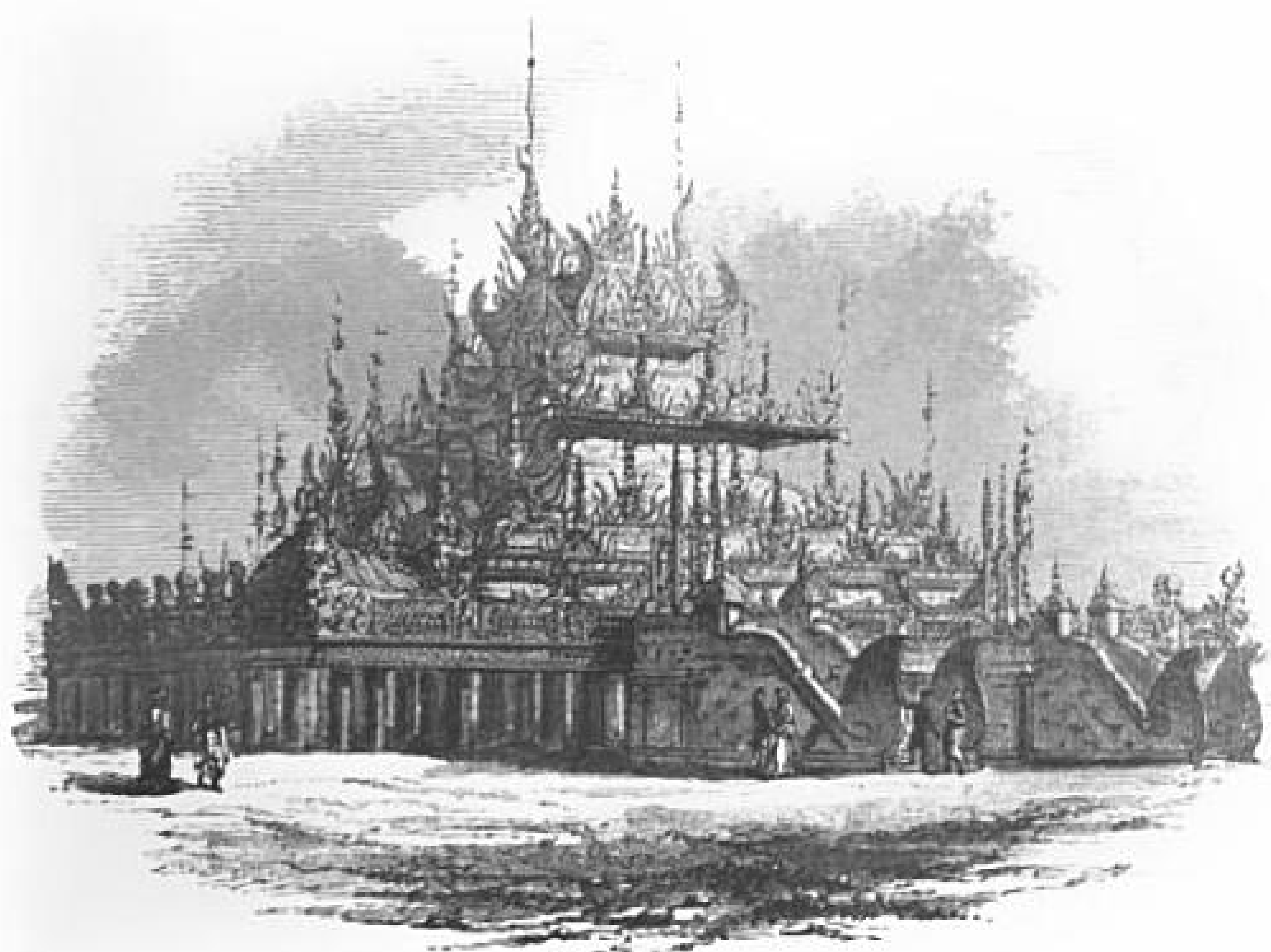
[1] See p. 4.

[2] See account of the Great Bell at Rangoon, by the Rev. G. H. Hough.—Asiatic Researches, vol. xiv. p. 270.

might enable us to understand the arrangement of the older ones. The travellers who have visited the country have been silent on the subject, principally because the monasteries are, in almost all instances, less magnificent than the pagodas to which they are attached, and are, with scarcely an exception, built of wood—a practice destructive of their architectural character, and also depriving them wholly of that monumental appearance of stability which is so essential to true architectural expression.

This peculiarity of being of wood is not confined to the monasteries; all residences, from that of the poorest peasant to the palace of the king, having been constructed from time immemorial of this perishable material. The custom has now passed into a law, that no one shall have the power of erecting buildings of stone or brick, except it be the king himself, or the edifices be of a purely religious character. Nor is this exception taken advantage of, for the king's palace itself is as essentially a wooden erection as the dwelling of any of his subjects. It is, however, not the less magnificent on this account—rather, perhaps, more so—immense sums being spent on the most elaborate carvings, and the whole being lacquered, painted, and gilt, to an extent that we have no conception of in our more sober clime.

The same profuse decorations are bestowed upon the monasteries, one of which is represented in the annexed woodcut (No. 35), showing



35. Burmese Kioum. From Col. Symes' Embassy to Ava.

a building in which all the defects arising from the use of so easily carved a material are carried to excess. If the colouring and gilding could be added, it would represent a building such as the West never saw, and, let us hope, never will see; for, however dazzling its splendour, such barbaric magnificence is worthy only of a half-civilized race.

Besides, however, its own merits, as showing the extent of richness to which this ephemeral style of art may be carried, the building is interesting as explaining how the 1600 columns of the Maha Lowa Paya of Ceylon[1] supported the lower floor of that great monastery. It also exhibits the general form of outline which I believe all these great monasteries to have possessed. The one represented here is of three stories, but is, I believe, in outline, the same as the five or nine storied edifices of which we read, but of which no example now remains to us.

The fact that all the buildings of Burmah are of wood, except the pagodas, may also explain the fact of India possessing no architectural remains anterior to the age of Asoka. Except the comparatively few masonry pagodas, none of which existed prior to his era, there is nothing in Burmah that a conflagration of a few hours would not destroy, or the desertion of a few years entirely obliterate. That the same was the practice of India is almost certain, from the essentially wooden forms still found prevailing in all the earlier cave temples; and if so, this fully accounts for the disappearance of all earlier monuments.

We know that this wooden architecture was the characteristic of Nineveh, where all the constructive parts were formed in this perishable material; and from the Bible we know that Solomon's edifices were chiefly so constructed. Persepolis presents us with the earliest instance in Asia of this wooden architecture being petrified, as it were, in consequence apparently of the intercourse its builders maintained with Egypt and Greece; but in the remote lands we are now describing the old Asiatic type of art remains unchanged in all its ephemeral splendour to the present hour: bad and barbarous, it must be confessed, as a style of art, yet not wholly without interest from its historical bearing upon other styles.

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[1] See p. 43.

CHAPTER V.

JAVA.

CONTENTS.

Buildings at Boro Buddor — Temples at Brambanam.

THE island of Java is another of those countries which received their civilisation and their arts direct from the continent of India, but by a different route from that by which they passed into Ceylon and Burmah.

Neither in the island, nor on the continent of India, are any very distinct evidences found of the early colonisation of this country, but it seems most probable that it took place in the first century of the Christian era. At that time the west of India was in a state of continuous ferment in consequence of the struggle between the Brahmins and the Buddhists, the latter of whom seem then to have gained the ascendancy under King Salivahana, who established the Saka era in the year 76 or 78 A.D., which is still used as the epochal date in Java, and these events are the earliest to which their traditions refer.

Among the Javanese traditions we find no traces of the sovereigns of central India, and neither does Asoka mention this island as one of the countries to which he sent missionaries, nor does his name appear in any of the records collected by Sir Stamford Raffles or Mr. Crawford, who are almost our only authorities on the subject. On the contrary, the earlier heroes of the Mahabhárat are the traditional rulers of the land, and all their myths are derived from Hindu and not from Buddhist sources.

Hence the first colonists seem not to have been Buddhists, but Hindus from Guzerat, or the west of India, driven to seek in the islands of the east the enjoyment of that religion from which they were debarred by the ascendancy of their rivals in their native land.

For some centuries after this date even the traditional annals are silent as to any important events, or the foundation of any great cities on the island, though we gather from them, and from the more certain testimony of Fa Hian, who visited the island A.D. 413 in sailing from Ceylon, that the intercourse was frequent between the Brahmanical possessors of both countries at this early period; and we have also his certain testimony that in those days there were no Buddhists in the country, though many Brahmins from India.[1]

[1] Foe Koue Ki, p. 360.

The Hindu kingdom of Java seems never to have extended into the western part of the island. In the earliest times it was confined to the district of Matarem, near the centre, on the southern side. Here the two greatest and most ancient groups of ruins are situated, those of Brambanam and of Boro Buddor, or the Great Buddha.

We do not know even now when Buddhism was introduced; probably not till the followers of that sect were expelled from the continent of India in the 10th or 12th century of our era, when they in their turn took refuge from the persecution of the Brahmins, in that insular asylum which ten centuries before the Hindus had sought, to avoid their intolerance and bigotry.

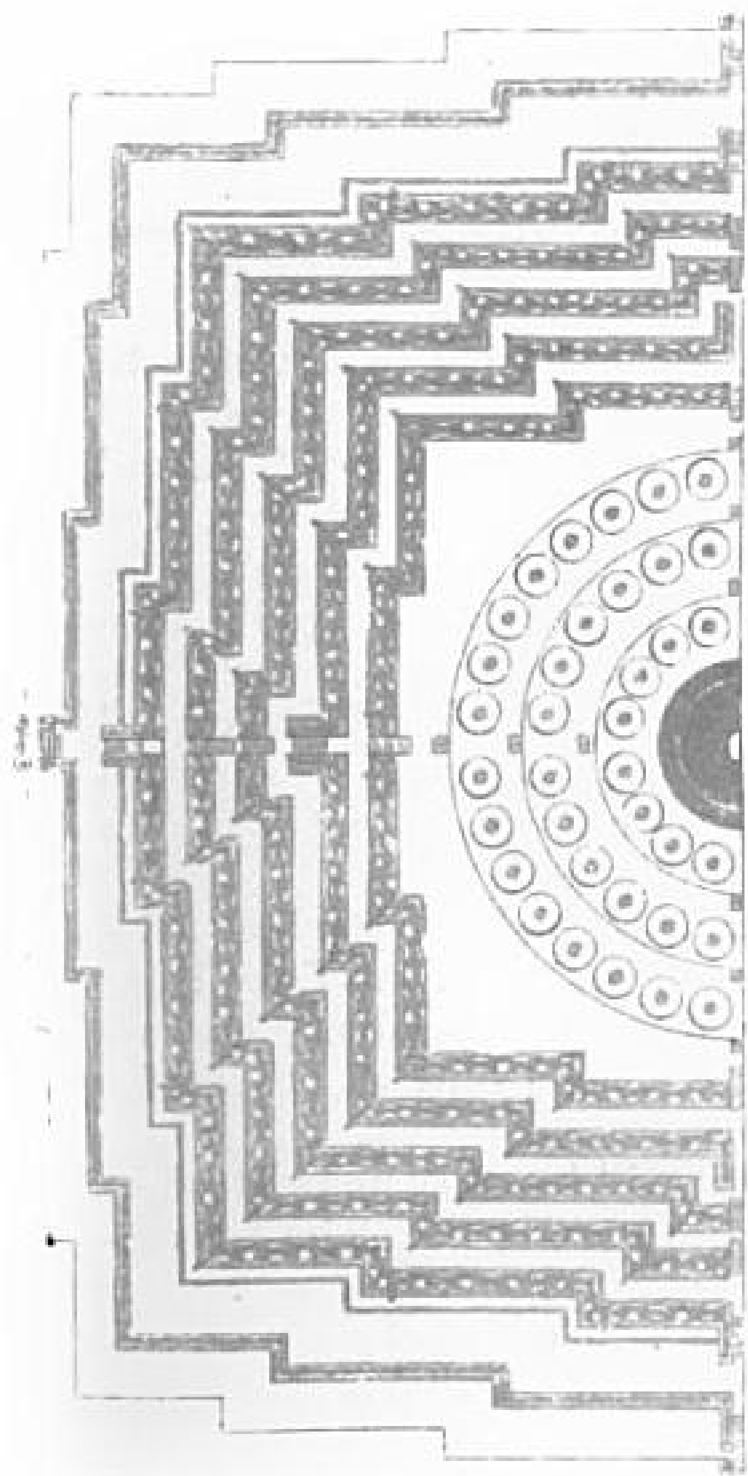
Certain it is that the most splendid temple of the Buddhists in Java, that of Boro Buddor, is assigned, both by tradition and by the evidence of its style, to the 14th century, and is indeed the only building of a decidedly Buddhist character to be found on the island.

Boro Buddor.

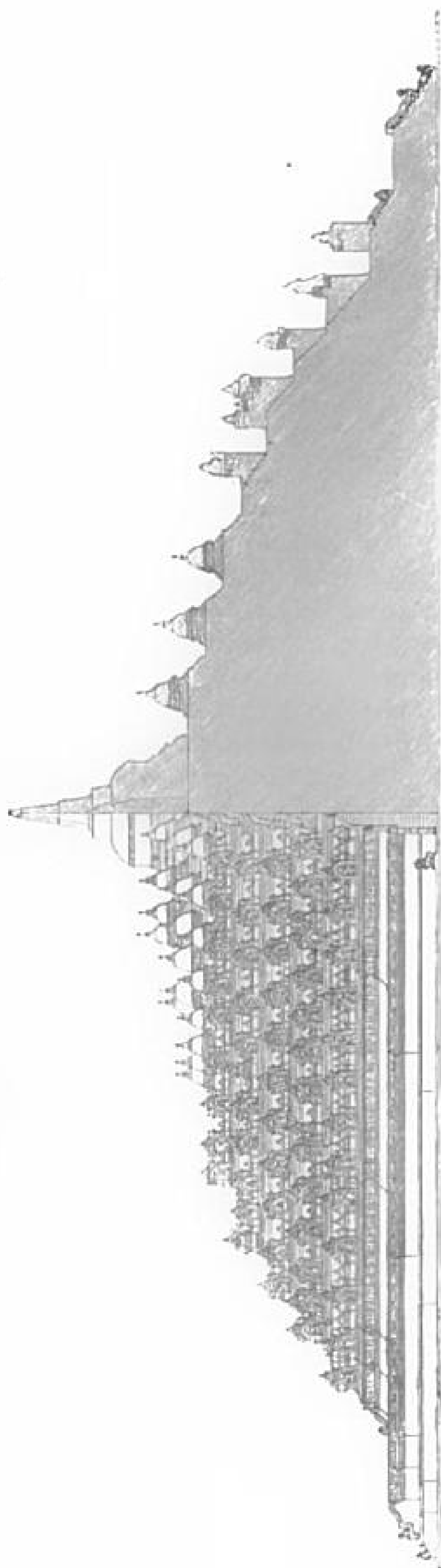
This great temple forms, if not the purest and most graceful, certainly the most curious and elaborate monument of the style found in this or any other country. Its plan and arrangements will be best understood from the woodcuts, No. 36, representing half the plan of the monument—the other half being exactly similar has been omitted —No. 37, being a section through one half, and an elevation of the other half of the building, slightly reduced from the usual scale of 50 ft. to one inch; and No. 38, a section and elevation of one of the small domes surrounding the great one.

From the plan or elevation it will be seen that it is a nine-storied pyramid of a square form, measuring about 400 ft. across. The five lower stories consist of narrow terraces running round the building, rising on an average about 8 ft. the one above the other. On their outer edge is a range of buildings of the most various and fantastic outline, covered with small spires and cupolas of various shapes and forms, the principal ones covering 436 niches, occupied by as many statues of Buddha as large as life, seated in the usual attitude with his legs crossed. Between each of these are one or two bas-reliefs representing the god in the same attitude, besides architectural ornaments and carvings of all sorts. Below these on the lower story is an immense bas-relief running round the whole building, and consequently 1600 ft. long, representing scenes from the life of Buddha and religious subjects. These are all on the outside, but the inner faces of the five ranges of buildings are even more profusely and more minutely ornamented with bassi-relievi, and seated figures, and architectural ornaments carried to an extent unrivalled, so far as I know, by any other building in any part of the world.

Above and within the upper square terrace are three circular ones, the outer ornamented with 32, the next with 24, and the upper with 16 small domes, each containing (as shown in woodcut No. 38) a seated statue of Buddha, which can be seen through the open work of their



36. Half-plan of Temple of Boro Buddor. From a plate in the second edition of Sir Stamford Raffles' History of Java. Scale 100 ft. to 1 in.

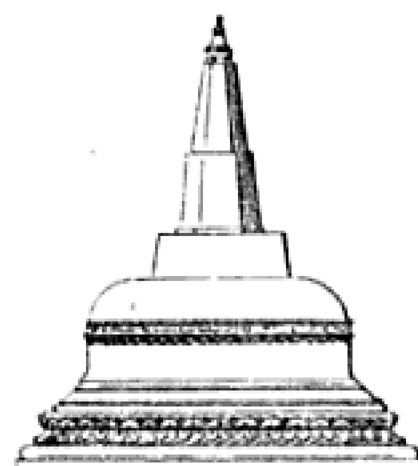


37. Elevation and Section of Temple of Boro Buddor. From an unpublished plate intended for Sir Stamford Raffles' History of Java.

roofs. The whole is surmounted by what must be considered as the pagoda itself (woodcut No. 39), which is now empty, its centre being occupied only by a sunken chamber 10 ft. deep, meant originally no doubt to contain the relic for which this splendid temple was erected.



38. Section of one of the smaller domes at Boro Buddor.



39. Elevation of principal dome at Boro Buddor. From Sir S. Raffles' History of Java.

On looking at this gorgeous edifice the first thing that strikes the beholder is the singular arrangement of its five lower terraces. I have myself no doubt whatever but that they are copied from and represent the terraces of such a monastery as the Maha Lowa Paya already described;[1] that in the originals these niches, occupied by the cross-legged figures, were the entrances to cells, whose walls were painted, perhaps sculptured, as these are. In India, as we shall presently see, the Jains, who were the successors of the Buddhists, carried this practice to a considerable extent. They continue to surround their court-yards with cells, but lodge a cross-legged divinity in each instead of a shaven priest.

Indeed, the whole of the arrangements of the lower stories of this building seem to be intelligible only on the supposition of its being built on the model of some monastery, extended beyond anything we know of that class, and altered so as to be a mere copy of the abodes of priests instead of their actual residence.

The arrangement of the upper story will be easily understood by referring to the description of the Shoëmadoo at Pegue.[2] The arrangement is the same, except that there are three ranges of smaller temples surrounding the larger one instead of two. We here observe an analogy to the three ranges of pillars that surround the base of the Thupa Ramaya and other topes at Ceylon.

The building is therefore not only a compound of a monastery with a tope, such as probably existed in India, but it is so modern, and so far removed from the early types, that almost all the parts have lost their original signification, and have been consecrated to other purposes, while retaining the ancient forms—a transformation common enough in the history of architecture, but seldom more distinctly shown than in this instance.

It would be singularly interesting if we could find some similar

[1] P. 43. [2] P. 50.

example in India, for in Java unfortunately a certain Malay element has been superinduced, which prevents our recognising at once all the parts, and it does not consequently furnish us with that amount of historic deduction which a purer example would afford. We cannot, however, doubt that it is really Buddhist, or at least a transition specimen, unlike anything else we are acquainted with in its details, and unsurpassed, so far as I know, in the amount of sculptured decoration that is lavished on every part of it.

BRAMBANAM.

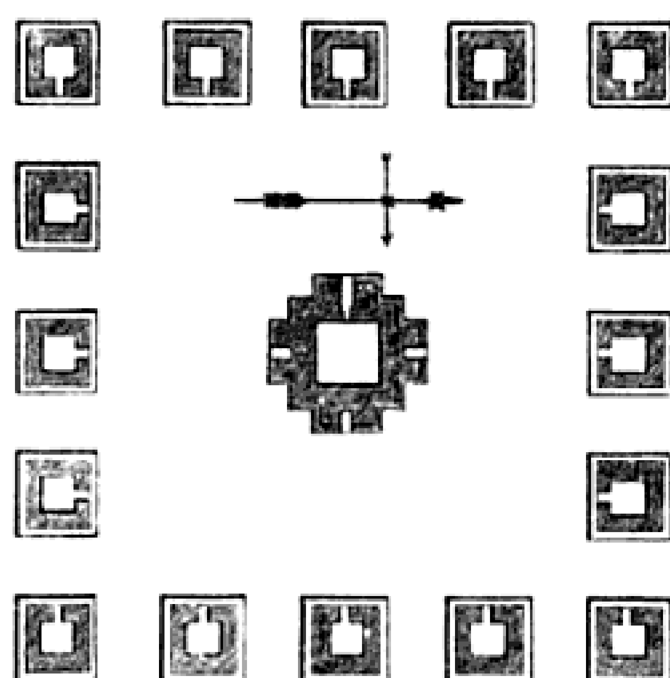
Not far from the ruins of Boro Buddor are situated the temples of Brambanam, certainly one of the most extraordinary groups of buildings of its class, and very unlike anything we now find in India, though there can scarcely be a doubt but that the whole is derived from an Indian original now lost.

The great temple is a square building above 45 ft. square, and 75 ft. high, terminating upwards in an octagonal straight-lined pyramid. On each face of this is a smaller temple of similar design joined to the great one by corridors; the whole five thus constituting a cruciform building. It is raised upon a richly ornamented square base. One of the smaller temples serves as an entrance-porch. The building itself is very curiously and richly ornamented with sculpture, but the most remarkable feature of the whole group is the multitude of smaller temples which surround the central one, 239 in number. Immediately beyond the square terrace which supports the central temple stand 28 of these, forming a square of 8 on each side, counting the angular ones both ways. Beyond these, at a distance of 35 ft., is the second square, 44 in number; between this and the next row is a wide space of above 80 ft., in which only 6 temples are situated, two in the centre of the north and south faces, and one on each of the others. The two outer rows of temples are situated close to one another, back to back, and are 160 in number, each face of the square they form being about 525 ft. All these 239 temples are similar to one another, about 12 ft. square at the base, and 22 ft. high,[1] all richly carved and ornamented, and in every one is a small square cell, in which was originally placed a cross-legged figure, probably of one of the Jaina saints, though the drawings which have been hitherto published do not enable us to determine whom they represent—the persons who made them not being aware of the distinction between Buddhist and Jaina images.

The arrangement of this great group will be better understood from the woodcut on the next page, being the plan of a smaller one in the immediate neighbourhood, surrounded by only 16 subsidiary temples instead of 239, and the central one having only one cell instead of five.

[1] The information here given is taken from Sir Stamford Raffles' History of Java, second edition, vol. ii. p. 17 *et seq.* His plans, however, do not quite agree with the measurements in the text, a mistake arising, I believe, from the scales in the original drawings—which I have before me—being in Rheinland roods, which are not always converted into English feet.

In other respects the arrangement is the same, and it is preferable for the purpose of illustration, as it immediately reminds us of the arrangement of the cells that surround the Buddhist cave-Viharas at Ajunta [1] and elsewhere, already described; and it seems hardly doubtful but that this was the arrangement of the cells of the priesthood in the original buildings in India, which, when copied in the rock, took the form we now find. It is true these cells, instead of being occupied by hermits, are either empty or have a statue in them, but, as will presently be shown, this was usual in India with the Jains, to whose religion the temples at Brambanam probably belong.



40. Small Temple at Brambanam. From a drawing at the India House. No scale.

The date given to these monuments by the natives is about the 9th or 10th century, at which time the Jains were making great progress at Guzerat and the western parts of India; and if the traditions are to be relied upon, which bring the Hindu colonists of Java from that quarter, it is almost certain that they would have brought that religion with them. If the age, however, that is assigned to them be correct, and I see no reason to doubt it, they are specimens of an earlier date and form than anything we now find in India, and less removed from the old Buddhist type than anything that now remains there.

The value of these examples will be better understood when we come to examine the Hindu and Jaina styles of architecture, the elements of which, though considerably altered here by local peculiarities, are still sufficiently distinct to enable us to understand what without them would be nearly unintelligible.

A good local history of Javanese architecture—which was nobly commenced by Sir Stamford Raffles—would be curious and highly instructive if fully carried out; and ample materials exist for writing it, though much requires yet to be done before so extensive a subject can be rendered even partially intelligible. It is rendered more difficult from the apparent inversion that took place in the order of the styles; the Jaina temples of Brambanam preceding the Buddhist of Boro Buddor; and the Hindu being mixed through all, for, though I do not know of one single temple that can be called purely Hindu, Hindu sculpture is found everywhere combined with the architecture of other styles. In Bali, where Hinduism still prevails, and in the extreme eastern parts of the island, about Majapahit and elsewhere, the case may be different.

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[1] See p. 33.

CHAPTER VI.

THIBET AND NEPAL.

CONTENTS.

Monastery of Bouddha La — Temples in Nepal.

IT would be a matter of the deepest interest if we were able to compile a satisfactory account of the Buddhist style in Thibet, for it is there that Buddhism exists in its greatest purity at the present moment, and there only is it entirely and essentially a part of the system of the people. We would gladly therefore compare the existing state of things in Thibet with our accounts of India in the days of the supremacy of the same religion. The jealousy of the Chinese, however, who are now supreme over that nation of priests, prevents free access to the country, and those who have penetrated beyond its forbidden barriers have either done so in the disguise of mendicants, and consequently neither dared to draw nor examine minutely what they saw, or have had little taste for portraying what was unintelligible, and consequently considered of very little interest.[1]

So far as can be made out from such narratives as we have, there does not seem to be in Thibet a single relic-shrine remarkable either for its sanctity or its size, nor does relic-worship seem to be the object of either the architecture or the religious worship. But as no country in the world possesses a larger body of priests in proportion to its population, and as all these are vowed to celibacy and live together, their monasteries are more extensive than any we know of elsewhere—some containing 2000 or 3000 lamas, some, if we may trust M. Huc, as many as 15,000.[2] The monasteries do not seem to be built with any regularity, or to be grouped into combinations of any architectural pretensions, but to consist of long streets of cells, most of which surround small court-yards, three or four on each side, and sometimes two or even three stories high; generally, perhaps always, with a small shrine or altar in the centre. The monastery of Bouddha La, outside the city of Lassa, where the Delai Lama resides, seems to be of more magnificence than all the rest—the centre being occupied by a building four stories high, crowned by a dome (making the

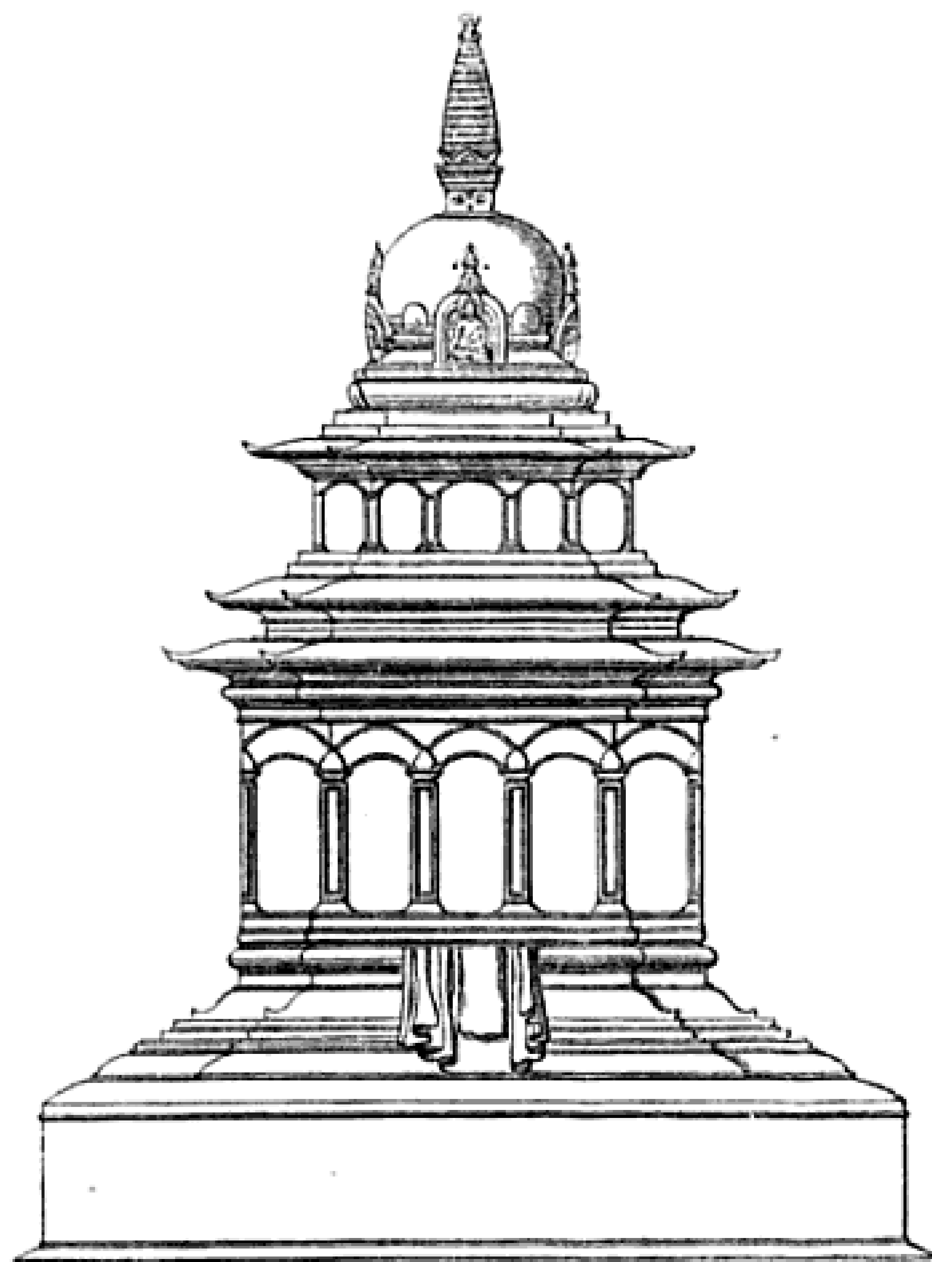
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[1] Captain Turner, it is true, who was sent to Teeshoo Lomboo by Warren Hastings, has published with his interesting narrative a number of very faithful views of what he saw, but they are not selected from that class of monuments which is the subject of our present inquiry.

[2] Voyage dans le Thibet, vol. ii. p. 289. The monastery referred to is that of Sera, in the neighbourhood of Lassa, the capital.

fifth) covered entirely with sheets of gold, rather perhaps merely gilt, and surrounded by a peristyle of columns, which are gilt also. Around this central palace are grouped a number of smaller ones, where the inferior members of this great ecclesiastical order reside; but of all this it is difficult to form a distinct idea without some better drawings than the native ones which are at present alone available.

The Delai Lama, who resides in this palace, is believed by the Thibetans to be the living incarnation of the Deity, and in consequence is the principal, if not the only, object of worship in Lassa, though there are four or five subordinate incarnations in different parts of Thibet and Mongolia, who, though inferior to this one, are still objects of worship in the places where they reside, and by particular sects of Buddhists.



41. Nepalese Kosthakar. No scale.

It is this worship of a living rather than of a dead deity that seems to be the principal cause of the difference of the architectural forms of India and Thibet. In the countries we have hitherto been describing no actual incarnation of the Deity is believed to have taken place since the death of Sakya Muni, though the spirit of God has descended on many saints and holy men; in India therefore they have been content to worship images of the departed deity, or relics which recal his presence. In Thibet, where their deity is still present among them, continually transmigrating, but never dying, of course such a form of

worship would be absurd; no relic of a still living god can exist, nor is the semblance or the memory of any past manifestation thought worth preserving. *A priori*, therefore, we should scarcely look here for the same class of sacred edifices as we find in India or Ceylon. Some smaller relic-shrines, however, do exist, at least in Nepal, but scarcely differing in any essential point from those in India; and we have no representations nor measurements of those which have been described. One class of temple is found in Nepal which deserves mention; it is called *Kosthakar*,[1] and consists of a square base containing a cell intended to be occupied by a statue like those at Brambanam in Java, and is crowned by what seems to be a copy of a tope with its terminal. One is represented in woodcut No. 41, not so much on account of any merit of its own, but as explaining a form of Hindu architecture afterwards common, and also as throwing light on some of the buildings just described. The temple of Boro Buddor, for instance, is nothing more—on an immensely exaggerated scale—than such a compound temple as this; cells that were originally residences turned into image-places, and the relic shrine become a mere crowning ornament. When speaking of Hindu architecture we shall understand the full significance of the change.

The remaining countries in which Buddhist architecture has been or is practised are China and Japan. With regard to these it will be more convenient to speak of their Buddhist architecture when we speak of their art in general; for they have so altered the style, and so completely adapted it to their own peculiar idiosyncracy, that it is almost impossible to recognise the original in the copy, and the two styles have become so different that little is gained by placing them in juxtaposition.

[1] See Trans. Royal As. Soc., vol. ii. p. v.; and Trans. A. S. B., vol. xvi. p. 442.

CHAPTER VII.

TRANSITIONAL STYLES AND CONCLUDING REMARKS.

CONTENTS.

Raths of Mahavellipore — General Remarks on Buddhist Architecture.

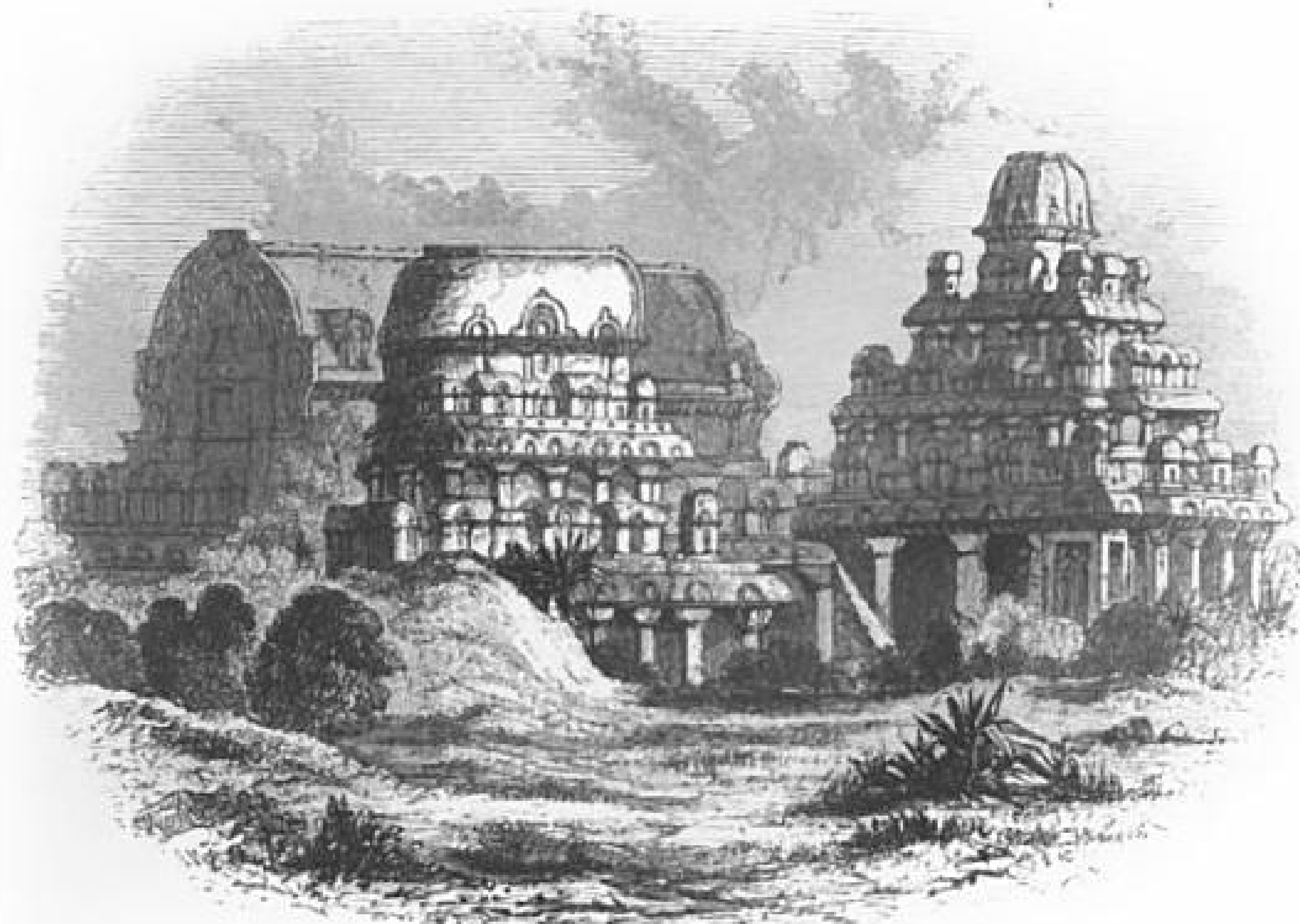
Before leaving the subject of Buddhist architecture there is one further illustration which it will be well to quote, not only as throwing light on what has been said, but also as preparing the way for what is to follow.

On the Coromandel coast, some way south of Madras, and near the village of Sadras, is a spot well known to Indian antiquaries by the name of Maha-Balipooram, or, more properly, Mahavellipore; familiar also to English readers from the use Southey makes of it and its tradition in his 'Curse of Kehama.' Near this spot runs a long low ridge of granite hills, the highest part rising, perhaps, 100 ft. from the level of the plain. In these hills some half-dozen caves have been excavated, and several others commenced, some as excavations, others as monoliths.[1] Between the hill and the sea-shore seven masses of granite protrude from the sands, which have been carved by the Hindus, probably about 1300 A.D. The three principal of these are represented in the annexed woodcut (No. 42). It is evident that the object on the right imitates a Buddhist monastery of five stories. The lower story is wholly occupied by a great square hall; the three next stories possess central halls, diminishing in size according to their position, and surrounded by cells on the outside; the upper one is crowned by a dome, or rather such a dome-formed termination as crowns the Nepalese temple, woodcut No. 41. Altogether the building seems to represent, with great exactness, all that we know and all that we read of the Buddhist monasteries. Nor is this a mere accidental coincidence. The time at which it was executed was very little removed from that of Buddhism in this part of India. Its being cut in the rock is obviously a peculiarity of that religion. There is little or none of the extravagance of later Hindu styles in the sculptures. We must remember, too, that neither the Jains nor the Hindus introduced

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[1] The best account of this spot and its antiquities is that given by Dr. Babington in vol. ii. of the Trans. R. A. S. See also Illustrations of the Rock-cut Temples of India by the author. They are also described by Messrs. Chambers and Goldingham, Trans. A. S. B., and mentioned by Mrs. Graham, Bishop Heber, and others.

anything like a new style of architecture. They adapted the Buddhist style to their own purposes, and I have no doubt that this is a very close copy of a five-storied Buddhist monastery, used as a temple.



42. Raths, Mahavellipore. From a sketch by the Author.

What confirms this view of the case is, that the next building, the central one in front, is the only representation I know in India of such a temple as those cut in the rock at Ajunta and elsewhere. The front, —turned from the spectator in the view—is exactly the front of one of the more modern Chaitya caves in the Bombay presidency; and we see here the rounded apsidal end—nowhere else represented that I am aware of—with the ornaments, which may in all instances have relieved its monotony. The side aisle is here seen to be open externally, which is not the case in the caves hitherto explored, though it probably was so in buildings; but it would evidently be impossible to represent this feature in the rock. There is also an additional story in this case, besides the ranges of cells over each of the aisles, which we have no reason to suppose existed in the older examples. But in this, as in all more modern structures of this class, we find considerable confusion between the forms belonging to the temple and those of the monastery. This is no more than might be expected when we consider that the original purposes to which those forms were adapted had ceased to exist, and that in these late copies what were originally essential constructive necessities have become mere ornamental appendages. The third building, behind the one last described, evidently belongs to the same system; nothing like it exists structurally, so far as I know, in the south of India; though in the north there is a class of oblong

temples with pointed roofs, which may be derived from the same original, and all the gateways in the south have a similar termination. There can be little doubt that it is a copy of a variety of the Buddhist temple or *Chaitya*, of which we have no exact representation in the caves. It is probable that this is an imitation of a built Buddhist temple, for it is by no means certain that those which stood alone and were capable of receiving light from all sides would have the apse, which all the rock-cut examples have.

Although these *Raths*, as they are called locally, are comparatively modern, and belong to a different faith, they certainly constitute the best representations now known of the forms of the Buddhist buildings described in Chapter II., and make their external forms more intelligible to us than they could otherwise be made from the mere internal copies of them which alone we possess in the rock-cut examples. There are no essential differences which cannot be accounted for by the consideration that the sacred caves of the Buddhists were designed for a well-understood purpose—the *Chaityas* as temples, the *Viharas* as residences—which was the invariable rule in Buddhist times. When their successors, the Hindus, began to follow their example, they copied blindly and unmeaningly. When we come to speak of the architecture of the south of India, it will be seen how completely this view of the matter explains many points in the architecture which without this would be perfectly unintelligible. The *Raths* are transition specimens in fact, and, as such, link the two styles together, the one serving to explain the peculiarities of the other.

In the preceding pages all the principal examples of the Buddhist style of architecture which are at present known to us have been noticed, and the style traced, as far as possible, from its origin to the present day. The examples at the time of its greatest brilliancy are too few and too imperfect to enable us to pass a distinct judgment on its merits as a style of art; but, even if criticised according to the most rigid rules, it will not be found deficient in beauties, though these are of an order peculiarly its own. The great halls, when perfect, must have possessed all the beauties of the choirs of Christian basilicas, which they so much resemble, and besides had the merit of a far more perfect mode of lighting, by the one great opening over the entrance, placed exactly where it should be, instead of a number of small windows scattered over the building wherever the constructive necessities of the design would admit of their being inserted.

The great domical topes also, 200 or 300 ft. in diameter, when perfect and enriched with all the ornaments we know they possessed, doubtless displayed that beauty of outline which we admire so much in the Pantheon and some of our modern churches. Their imposing size and general effect may be judged of from observing that the external diameters of the great topes at Anuradhapoora were 360 ft., while that of St. Peter's at Rome is only half as great.

Of the monasteries and residences of the kings and people we have even less means of judging, but it is not easy to speak too highly of

some of the details and of the general effect of the architectural arrangements. They are bold and elegant, and singularly well adapted to the purpose for which they were designed.

Whatever doubt there may be of the merit of Buddhist monuments as works of art, there can be none of their great historical value; for of the styles still practised it is the oldest, having been constantly in use for more than 2000 years; and it is the style of a religion which even at the present hour, when its greatest glory has passed away, still reckons among its votaries, if not a greater, at least as great a number of followers as any religion now existing on the face of the globe.

CHAPTER VIII.

JAINA.

CONTENTS.

Definition of Jainism — Temples on Mount Abu — Origin of Domes — Domes of Jains and Buddhists — Temples of Somnath — Chandravati and Sadree — Towers at Chittore.

CHRONOLOGY.

	DATES.		DATES.
Parswanath, 23rd Tirthankar about . .	B.C. 800	Munja of Ougein	A.D. 933
Mahavira, 24th and last Tirthankar (cotemporary and preceptor of Gautama Buddha), died about	600	Bhoja of Ougein, about	1000
		Kumara Pala of Guzerat converted . .	1174
		Temples on Mount Abu	1032 to 1231
Amogaversha, King of Conjeveram: revival of Jaina religion by Jina Sena Acharya	9th century A.D.	Khombo Rana of Merwar, built temple at Sadree, and pillar at Chittore . .	1418
		Udaya Sinh, third sack of Chittore by Akbar	1580

If there be difficulty in explaining the peculiarities of Buddhist architecture, from the ignorance that necessarily exists regarding the form of a religion of which so little has hitherto been published in this country, there is even more when we come to speak of the Jaina religion. For this we have no materials except occasional papers in the Transactions of learned societies; and even that information is so scanty, and the results so inconclusive, that it is almost impossible to make out either the nature or origin of the religion. It is certain that it rose to importance only on the decline of Buddhism; and that it in many respects resembles that religion. Still the Jains entirely reject and ignore the prophet who gave his name to Buddhism, and who impressed on that religion its present form and character as distinctly as Mahomet gave its character to the religion that bears his name.

The Jains reject entirely Sakya Sinha and his doctrines, but worship 24 saints, or Tirthankars as they are called, who are said to have lived in India, succeeding to one another at considerable and almost fabulous intervals. The list closes with Parswanath and Mahavira: the last of whom is admitted by both sects to have been the preceptor and friend of Buddha, dying about 600 years before Christ; the former 250 years earlier. These two are the saints now principally worshipped, and indeed the only ones that can be considered as really historical personages.

The most probable hypothesis seems to be that a form of Buddhism did exist in India from the earliest ages, that Sakya Sinha was a reformer, not of the Brahminical religion, or of anything connected

with it, but of this old antecedent Buddhism. In process of time his religion perished of innate decay, sinking under the burthen of its own immense and overgrown priesthood. An attempt was then made to restore the old faith, by reviving the pre-existing worthies, and totally ignoring the reform and its consequent monasticism, and the result of this revival was Jainism. The reform was attempted, however, at an age when the purer traditions of the old faith must have been either wholly lost or very much obscured, and when Hinduism was competing for the favour of the vulgar to an extent it was impossible to overlook. It became in consequence not a purer and more exalted faith, but a mixture of superstition and idolatry, such as Buddhism had never sunk into in its most degraded days. Still it got rid of the priesthood, and of the unintelligible mass of metaphysical and other treatises which crushed that religion; and, in consequence, it still flourishes side by side with Hinduism in most parts of India, while Buddhism is wholly extinct in the land where it first was propagated.

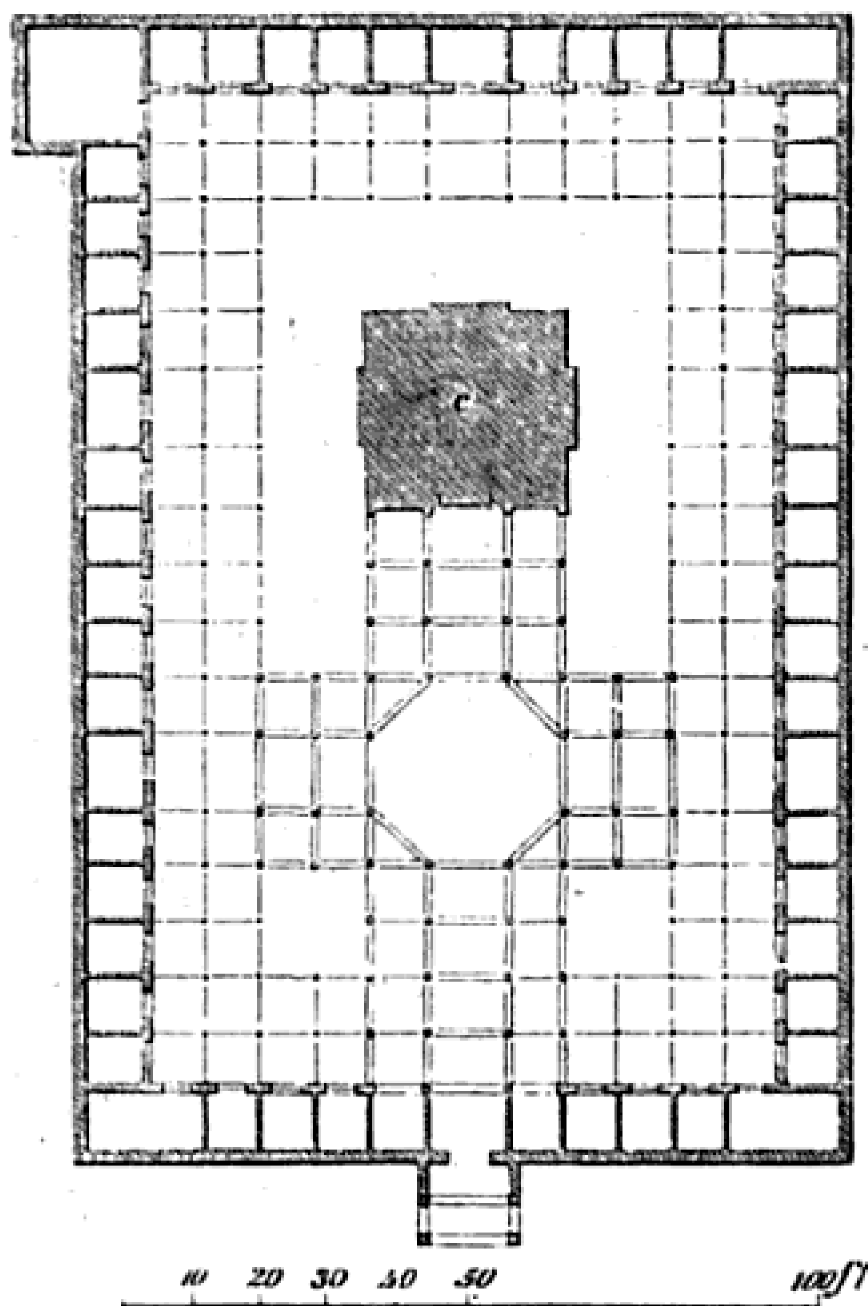
The principal seats of the Jains at the present time are either in Guzerat or in the Mysore, where it is said libraries exist, which if explored would throw much light on the subject. This is mere speculation, and till the books are seen must remain so; but there does exist, in both these and the surrounding countries, a numerous class of Jaina temples, and other buildings, which, if properly examined, would settle all the disputed points of their history, as far as they belong to historical times. So little, however, is known of these buildings, that no historical deductions can be obtained from them, and, so far from their lending any light to the subject, we do not even know the history of the style itself, but must be content with describing the architecture as we find it at the culminating point of its perfection, and the most brilliant period of Jaina history, about the 11th or 12th century of our era.

It seems at this period to have stood between declining Buddhism on the one hand, and rising Hinduism on the other, the temporary mistress of the continent of India, extending its influence from Guzerat, its principal seat, to Delhi on the one hand, and to Cape Comorin on the other. Thus it remained till the Indians were robbed of their independence by their Mahometan invaders, when they lost even this purer faith, and sank by degrees into the depth of that monstrous superstition known at present as the Hindu religion.

The oldest Jaina monuments now known to exist are probably those about Janaghur in Guzerat. The temple at Somnath and some of those about Ahmedabad appear to be of considerable antiquity; none of these, however, have yet been visited by any one who knew how to distinguish between what is old and what is new, or who could even ascribe to each religion what fairly belonged to it. Such classification must therefore be reserved for future explorers. The oldest temples I myself have seen are those on Mount Abu in Guzerat, a noble mountain of granite between 5000 and 6000 feet in height, and rising as abruptly from the sandy desert in which it stands as an island from the ocean.

On this hill are several Jaina temples of considerable beauty and extent, but two preeminently so, being built of white marble, and ornamented with all the resources of Indian art of the age in which they were erected. The more modern of the two was built by two brothers, rich merchants, between the years 1197 and 1247, and for delicacy of carving and minute beauty of detail stands almost unrivalled even in this land of patient and lavish labour.[1]

The other, built by another merchant prince, Vimala Sah, apparently about the year A.D. 1032,[2] is simpler and bolder, though still as elaborate as good taste would allow in any purely architectural object. A plan of it is annexed (double the usual scale), which will suffice to explain the general arrangements of this class of buildings, which are all tolerably similar, though of course varying considerably in extent.



43. Temple of Vimala Sah, Mount Abu.

The principal object here, as elsewhere, is a cell lighted only from the door, containing a cross-legged seated figure of the saint to whom the temple is dedicated, in this instance Parswanath. The cell is always terminated upwards by a pyramidal spire-like roof, somewhat similar to those of the numerous little temples of Brambanam in Java,[3] but more like the Hindu temples of the same age, to be described hereafter. To this is always attached a portico, generally of considerable extent, and in most instances surmounted by a dome resting on eight pillars, which forms indeed the distinguishing characteristic of the style, as well as its most beautiful feature. In this example the portico is composed of 48 pillars, which is by no means an unusual number; and the whole is enclosed in an oblong court-yard, about 140 ft. by 90 ft., surrounded by a double colonnade of smaller pillars,

[1] A view of this temple, not very correct, forms the title-page to Col. Tod's Travels in Western India.

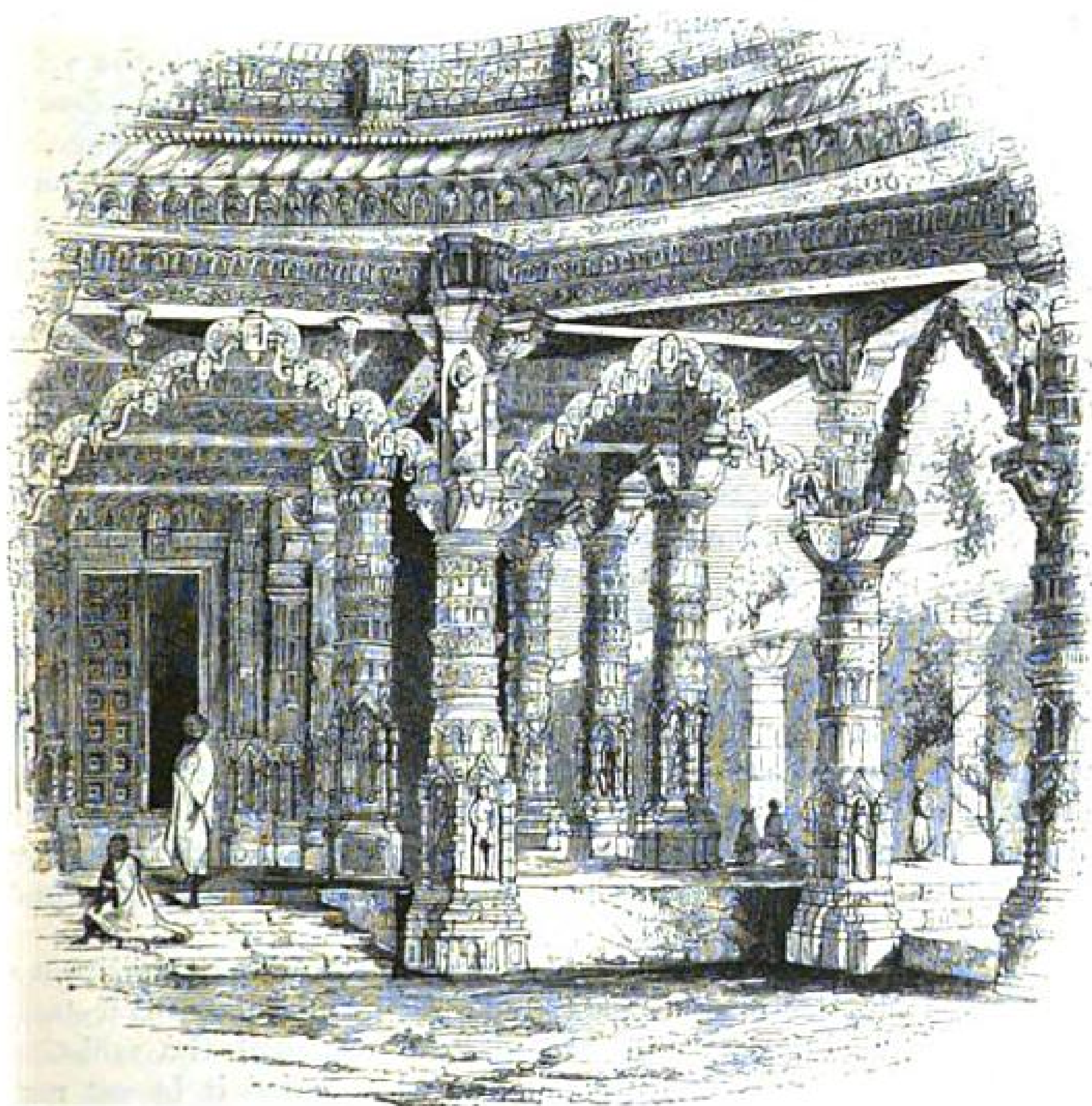
[2] See Illustrations of Indian Architecture, by the author, p. 39, from which work the plan and view are taken.

[3] See p. 59.

forming porticos to a range of cells, 55 in number, which enclose it on all sides, exactly as they do in a Buddhist vihara. In this case, however, each cell, instead of being the residence of a monk, is occupied by one of those cross-legged images which belong alike to Buddhism and Jainism, between which many find it so difficult to distinguish. Here they are, according to the Jaina practice, all of Parswanath, and over the door of each cell, or on its jambs, are sculptured scenes from his life.

Externally the temple is perfectly plain, and there is nothing to indicate the magnificence within, except the spire of the cell peeping over the plain wall, though even this is the most insignificant part of the erection.

The woodcut No. 44 will give some idea of the arrangement of the



44. Porch of Vimala Sah's Temple.

porch, but it would require a far more extensive and elaborate drawing to convey a correct impression of its extreme beauty of detail and diversity of design. The great pillars, as will be seen, are of the same height as those of the smaller external porticos; and like them they finish with the universal bracket-capital of the East; upon this an

upper dwarf column or attic, if I may so call it, is placed to give them additional height, and on these upper columns rest the great beams or architraves which support the dome; as, however, the bearing is long, at least in appearance, the weight is relieved by a curious angular strut or truss of white marble, like all the rest of the building, which, springing from the lower capital, seems to support the middle of the beam.

That this last feature is derived from some wooden or carpentry original, can, I think, scarcely be doubted; but in what manner it was first introduced into masonry construction is unknown: probably it might easily be discovered by a more careful examination of the buildings in this neighbourhood. It continues as an architectural feature down almost to the present day, but gradually becoming more and more attenuated, till at last it loses all its constructive significance as a supporting member, and dwindles into a mere ornament.

On the octagon so formed rests the dome; but as this is the principal feature of the architecture, and in fact the one which renders it a matter of interest, it may be as well, before proceeding further, to say a few words regarding the invention of domes in general, and of the particular mode of using them adopted by the Jains, without which I fear any description of their architecture will be barely intelligible.

Domes.

It is to be regretted that, while so much has been written on the history of the pointed arch, so little should have been said regarding the history of domes: the one being a mere constructive peculiarity that might very well have been dispensed with; the other being the noblest feature in the styles in which it prevails, and perhaps the most important acquisition with which science has enriched the art of architecture.

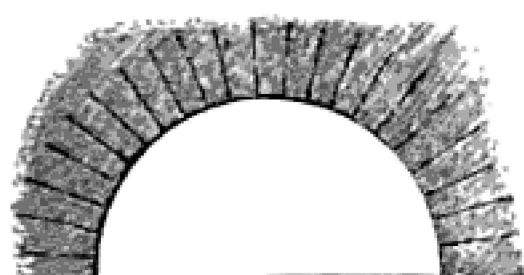
The so-called Treasuries of Mycenæ and Orchomenos, as well as the chambers in Etruscan tombs, prove that as early as ten or twelve centuries before Christ the Pelasgic races had learned the art of roofing circular chambers with stone vaults, not constructed, it is true, as we construct them, with radiating vaults, on the principle of the common arch, but by successive layers of stones converging to a point, and closed by one large stone at the apex.

Whoever invented the true or radiating arch, the Romans were the first who applied it as a regular and essential architectural feature, and who at the same time introduced its complement, the radiating dome, into architectural construction; at what period it is not now known. The earliest example, the Pantheon, is also the finest and largest; but we have lost entirely the innumerable steps by which the architects must have slowly progressed to so daring an experiment.

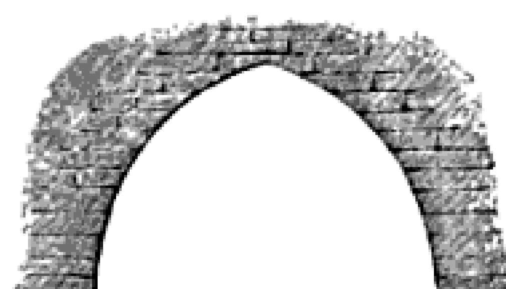
There is, however, a vast difference between these two classes of domes, which it is necessary to bear in mind in order to understand what follows.

The Roman arch and Roman dome are always constructed (woodcut

45) on the principle of voussoirs, or truncated wedges, radiating from a centre. This enabled the Romans to cover much larger spaces with their domes than perhaps was possible on the horizontal principle; but it involved the inconvenience of great lateral thrusts, continually tending to split the dome and tear the building in pieces, requiring consequently immense and massive abutments to counteract their destructive energy. This class of dome was entirely overlooked or rejected by the Gothic architects, but was taken up by the contemporary Byzantines, and made by them the principal feature of their architecture, and from them passed to the Saracenic architects, who also adopted it as their most important mode of architectural expression. To this we shall return hereafter, as the other is the form with which we are now principally concerned.



45. Radiating Arch.



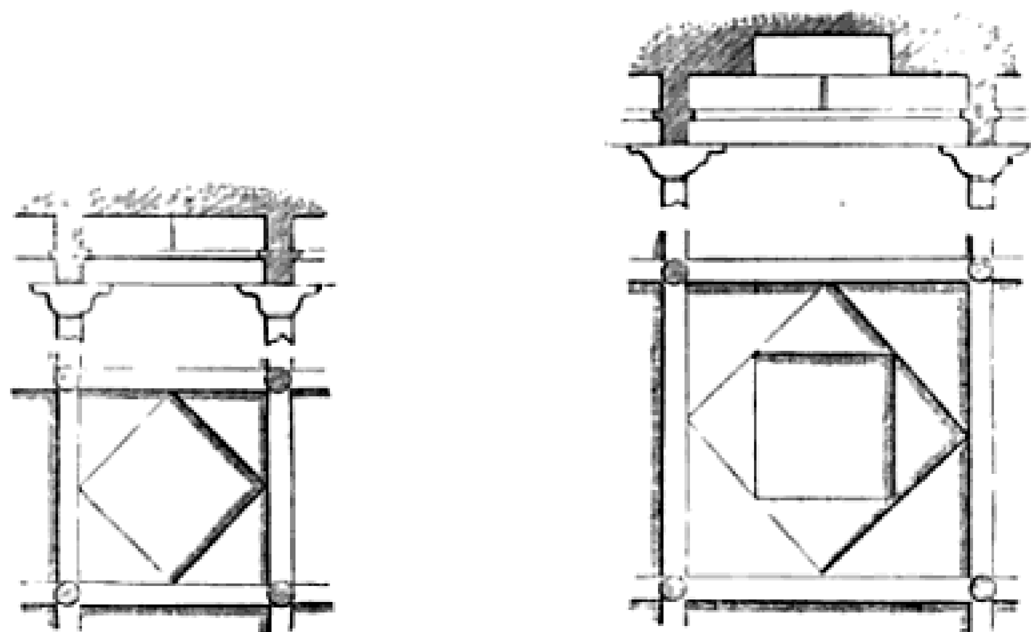
46. Horizontal Arch.

The Indian or horizontal dome never can be made circular in section, except when used on the smallest scale, but almost always takes a form more or less pointed (woodcut No. 46). From the time of the building of the Treasury of Mycenæ to the birth of Christ we have a tolerably complete series of arches and vaults constructed on this principle, but few domes properly so called. After the Christian era the first example is found in a singular tomb at Mylassa near Halicarnassus,[1] where it exhibits all the peculiarities of construction found in the Jaina temples of India. After this we lose the thread of its history till the form reappears in porches like that of the temple of Vimala Sah, where it is a perfectly established architectural feature that must have been practised long before being used as we find it employed in that building. Whether we shall ever be able to recover the lost links in this chain is more than doubtful, but it would be deeply interesting to the history of art if it could be done. In the mean time, there is no difficulty in explaining the constructive steps by which the object is now attained in India, which most probably explain also its history, though this is not, of course, capable of direct proof.

The simplest mode of roofing a small square space supported by four pillars is merely to run an architrave or stone beam from each pillar, and cover the intermediate opening by a plain stone slab. Unless, however, stones of great dimensions are available, this mode of construction has a limit very soon arrived at. The next step therefore is to reduce the extent of the central space to be covered by cutting off

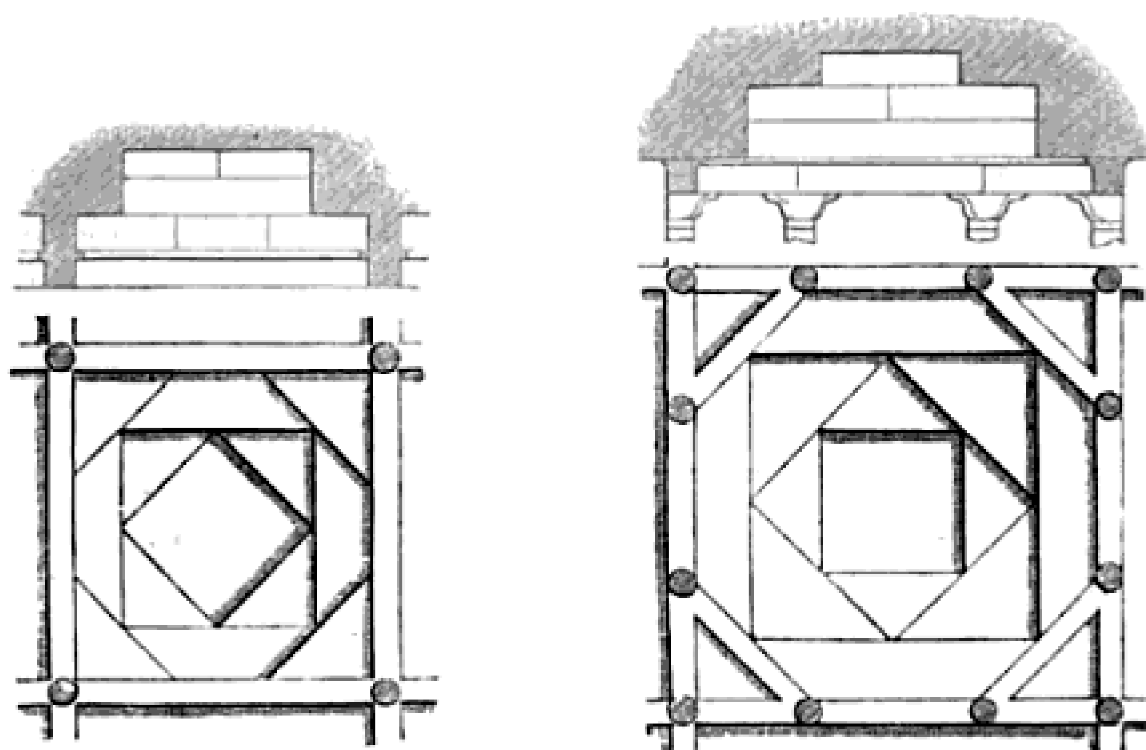
[1] Fully illustrated in vol. ii. of the Dilettanti Society's Antiquities of Ionia. A woodcut of it will be given further on.

its corners; this is done by triangular stones placed in each angle of the square, as in woodcut 47, thus employing five stones instead of



47. Diagrams of Roofing. 48.

one. By this means, the size of the central stone remaining the same, the side of the square space roofed is increased in the ratio of 7 to 10, the actual space being doubled. The next step in the process (woodcut 48) is by employing 3 tiers and 9 stones instead of 2 tiers and 5 stones, which quadruples the area roofed. Thus, if the central stone is 4 ft., by the second process the space roofed will be about 5 ft. 8 in., by the third 8 ft. square; by a fourth process (woodcut 49), 4 tiers and 13

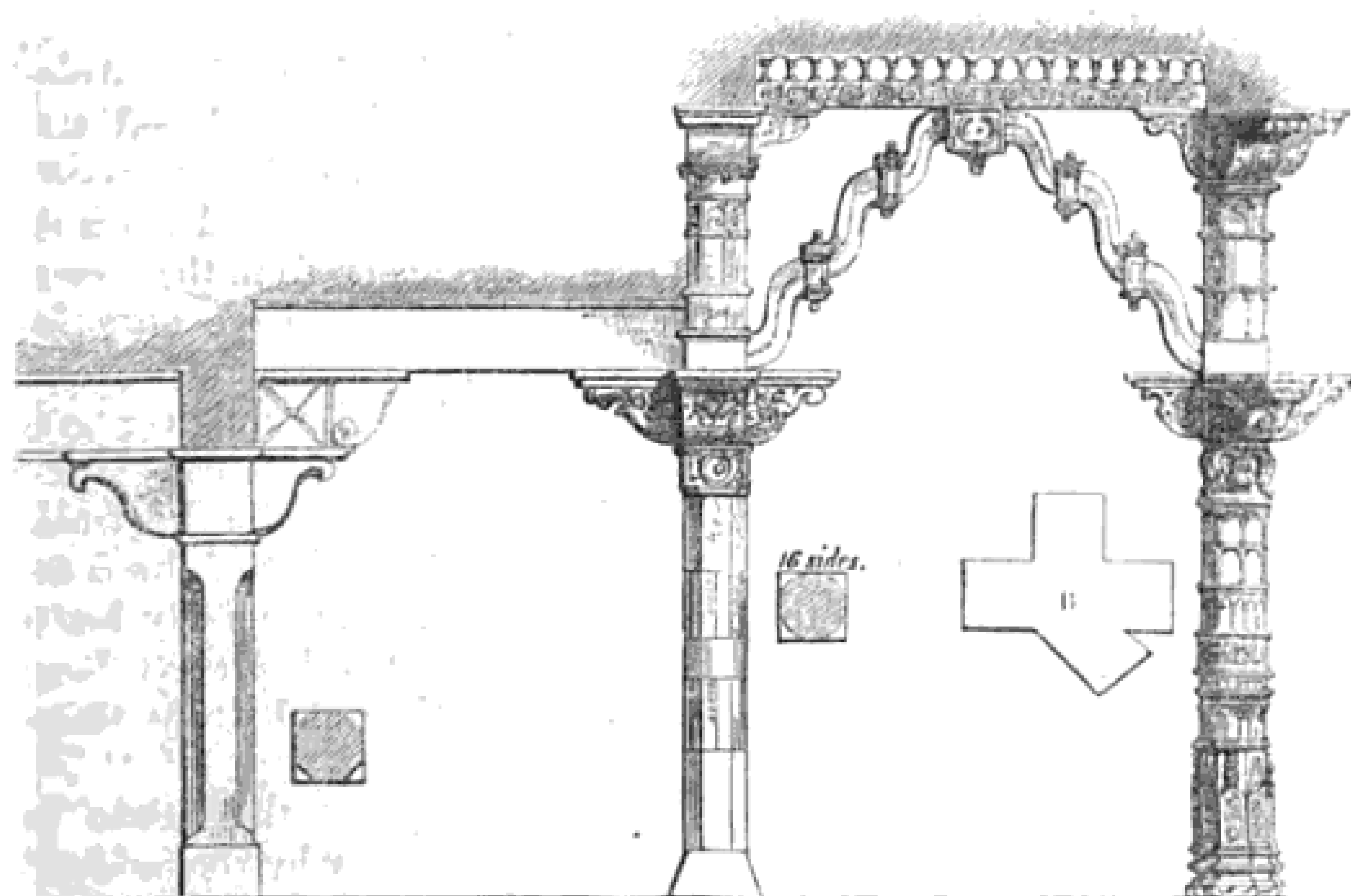


49. Diagrams of Roofing. 50.

stones are used, and the extent roofed may be 9 or 10 ft., always assuming the central stone to remain 4 ft. square. With 4 pillars the process is seldom carried further than this, but with another tier and 8 pillars, as shown in woodcut 50, it may be carried on a step further, and this is exactly the extent to which it is carried in the tomb at Mylassa above referred to; but in this, as in all instances of octagonal domes in this style, instead of the octagonal form being left as such,

there are always 4 external pillars at the angles, so that the square shape is retained, with 12 pillars, of which the 8 internal pillars may be taken as mere insertions to support the long architrave between the 4 angular pillars.

It is evident that here again we come to a limit beyond which we cannot progress without using large and long stones. This was sometimes met by making the lower course of 16 sides, by cutting off the angles of the octagon. When this has been done an awkwardness arises in getting back to the square form. This was escaped in all the instances I am acquainted with, by adopting circular courses for all above that with 16 sides. In many instances the lower course with 16 sides is altogether omitted, and the circles placed immediately on the octagon. It is difficult to say how far this system might be carried constructively without danger of weakness. The Indian domes seldom exceed 30 ft. in diameter, but this may have arisen more from the difficulty of getting architraves above 12 or 13 ft. in length to support the sides, than from any inability to construct domes of larger diameter in themselves. This last difficulty was to some extent got over by a system of bracketing, by which more than half the bearing of the architrave was thrown on the capital of the column, as shown in woodcut 51. Of course this method might have been carried to any



51. Diagram of Indian construction.
B. Form of bracket capital in the angle of an octagonal dome.

extent, so that a very short architrave would suffice for a large dome; but whether this could be done with elegance or not is another matter. The Indians seem to have thought not; at least, so far as I know, they never carried it to any extent. Instead of bracketing, however, they sometimes used struts, as in the instance under consideration, the temple of Vimala Sah, but it is questionable whether that could

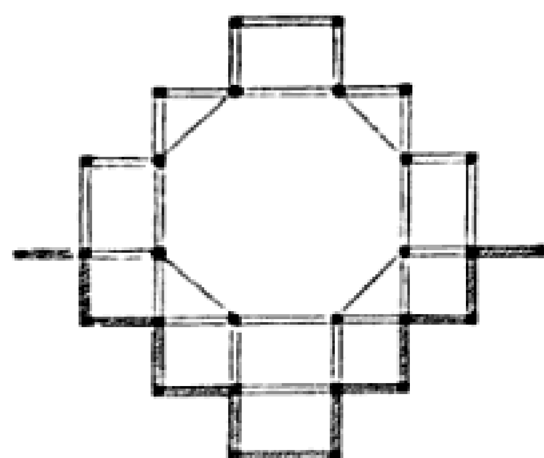
ever be made a really serviceable constructive expedient in stone architecture.

The great advantage to be derived from this mode of constructing domes was the power it gave the architect of placing them on pillars without having anything to fear from the lateral thrust of the vault. The Romans never even attempted this, but always, so to speak, brought their vaults down to the ground, or at least could only erect them on great cylinders, which confined the space on every side. The Byzantine architects, it is true, cut away a great deal of this substructure, but nevertheless they never could get rid of the great heavy piers they were forced to employ to support their domes, and in all ages were forced to use either heavy abutments externally, or to crowd their interiors with masses of masonry, so as in a great measure to sacrifice either the external effect or internal convenience of their buildings to the constructive exigencies of their domes. This in India never was the case; all the pressure was vertical, and it only required sufficient strength in the support to bear the downward pressure of the mass, and stability was insured—an advantage the importance of which is not easily over-estimated.

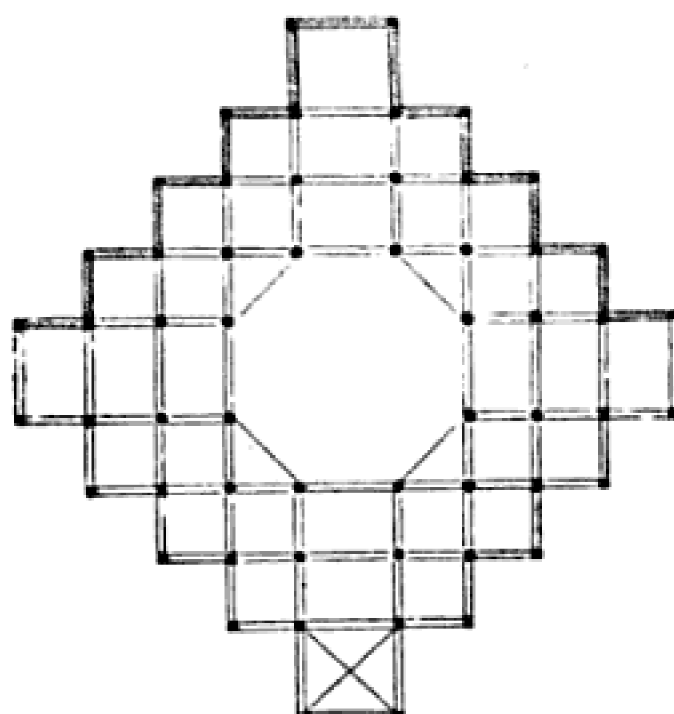
One of the consequences of this mode of construction was, that all the decoration of the Indian domes was horizontal, or, in other words, the ornaments were ranged in concentric rings, one above the other, instead of being disposed in vertical ribs, as in Roman or Gothic vaults. This arrangement allows of far more variety being introduced, without any offence to good taste, and practically has rendered some of these Jaina domes the most exquisite specimens of elaborate roofing that can anywhere be seen. Another consequence deduced from this mode of construction was the employment of pendants from the centres of the domes, which are used to an extent that would have surprised even the Tudor architects of our own country. With them, however, the pendant was an architectural "tour de force," requiring great constructive ingenuity and large masses to counterbalance, and is always tending to destroy the building it ornaments; while the Indian pendant, on the contrary, only adds its own weight to that of the dome, and has no other prejudicial tendency. Its forms, too, generally have a lightness and elegance never even imagined in Gothic art; it hangs from the centre of a dome more like a lustre of crystal drops than a solid mass of marble or of stone.

As before remarked, the 8 pillars that support the dome are never left alone, the base being always made square by the addition of 4 others at the angles. There are many small buildings so constructed with 12, but oftener 2 more are added on each face, making 20, as shown in the upper side of the diagram (52); or 4 on each face, making 28; or again, 2 in front of these 4, or 6 on each face, so as to make 36; and the same system of aggregation is carried on till the number reaches 56 (woodcut 53), which is the largest number I ever saw surrounding one dome; but any number of these domes may surround one temple, or central dome, and the number of pillars consequently be multiplied *ad infinitum.* When so great a number of

pillars is introduced as in the last instance, it is usual to make the outmost compartment on each face square, and surmount it with a smaller dome. This is sometimes done even with the smallest number, but not so frequently.



52. Diagram Plan of Jaina Temple.



53. Diagram of Jaina Temple.

It will be observed that this arrangement makes the principal aisles wider than the side ones, in the ratio of 10 : 7 (or rather 1000 : 707), which for aisles of the same height is perhaps the most pleasing proportion that can be imagined. In Gothic churches the principal aisles are generally twice as wide as the side ones, but they are also twice as high, which restores the proportion. Here, where the height of all is the same, or nearly so, this gradation just suffices for variety, and to mark the relative importance of the parts, without the one overpowering the other: and neither has the appearance of being too broad or too narrow.

It is of course difficult for those who have never seen a building of the class just described to judge of the effect of these arrangements; and they have seldom been practised in Europe. There is, however, one building in which they have accidentally been employed to a considerable extent, and which owes its whole beauty to the manner in which it follows the arrangement above described. The building is Sir Christopher Wren's church of St. Stephen's, Walbrook. Internally its principal feature is a dome supported on 8 pillars, with 4 more in the angles, and 2 principal aisles crossing the building at right angles, with smaller square compartments on each side. This church is the great architect's masterpiece, but it would have been greatly improved had its resemblance to a Jaina porch been more complete. The necessity of confining the dome and aisles within 4 walls greatly injures the effect as compared with the Indian examples. Even the Indian plan of roofing, explained above, might be used in such a building with much less expense and less constructive danger than a Gothic vault of the same extent.

It would be a curious subject of speculation to find out whether the Buddhists ever built domes. At first sight, almost every one would be inclined to answer that they did, so universally do domical forms appear in all their topes; and it is very difficult to believe that they should have adopted such a form so generally, without attaching to it some more meaning than we can trace in it; for it is neither the usual form of a tumulus, nor of any sort of roof or covering, except that of a dome of construction. Notwithstanding, however, this *primâ facie* evidence, added to our knowledge that the Jains adopted the dome at a very early period, and made it the principal feature in their architecture, it still appears probable that the Buddhists never constructed, or knew of, a true dome of any sort.

In the first place, no tope shows internally the smallest trace of a chamber so constructed, nor do any of the adjacent buildings incline to such a mode of construction, which must ere now have been detected had it ever existed.

In the next place, no one of the caves or rock-cut temples of any sort shows any tendency even to this architectural form. In them everything is a direct imitation of some wooden construction, and in no one instance, that I am aware of, is there a semblance of a stone roof of any kind, nor even of an arch, either horizontally constructed or on the radiating principle; much less of a dome, which is a far more complicated and difficult thing to construct than a mere arch. I think, therefore, it must be admitted that they were ignorant of the form, or if they knew it that they still adhered, as many races and nations have done before and since their time, to peculiar and characteristic styles of their own.

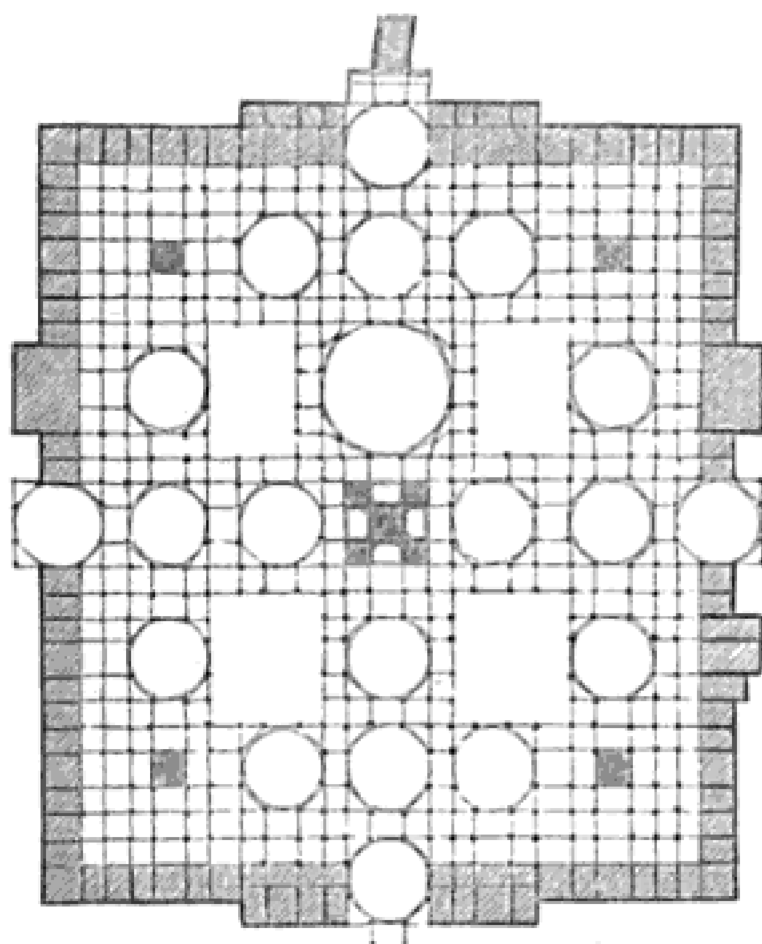
After this digression, little remains to be said of Jaina architecture, except to point out the principal buildings in this style so far as they are known. The oldest are those at Jonaghur, in Guzerat; but they have never been either described or drawn in such a manner as to render them intelligible. The same may almost be said of the famous temple of Somnath, against which Mahmoud, the Gaznavide, directed his famous campaign in the year 1025. A short account of it is given by Colonel Tod, in his Travels in Western India; and a view published by Captain Postans enables us to ascertain that it is a 56-pillared portico, like the one represented in woodcut No. 53, with a central and 4 angular domes, but not remarkable either for its size or its beauty. It is now converted into a mosque, and considerably spoilt in the process.

The other Jaina temples of Guzerat are almost wholly unknown to us; so are those of the Mysore, though there is every reason to believe that some of them are of great beauty and magnificence.

At Chandravati, a few miles to the south of Mount Abu, there are many remains of Jaina temples of great beauty. The place, however, is now wholly deserted, and has in consequence been used as a quarry by the neighbouring towns and villages, so that little remains in a perfect state. To the northward of this there are many temples, but none apparently of great antiquity. The most flourishing period of the style

appears to have been that of Khumbo Rana, of Oudeypore, A.D. 1418 to 1468, who, during his long and prosperous reign, filled his country with beautiful buildings, both civil and ecclesiastical. Amongst others he built the Temple of Sadree, situated in a deserted glen, running into the western slope of the Aravulli, below his favourite fort of Komulmeer. Notwithstanding long neglect, it still is nearly perfect, and is the most complicated and extensive Jaina temple I have ever myself seen.

From the annexed plan it will be perceived that it is nearly a square, 200 ft. by 225 ft., exclusive of the projection on each face. In the centre of this stands the great shrine, not, however, occupied, as usual, by one cell, but by four; or rather four great niches, in each of which is placed a statue of Adinath, or Rishabdeva, the first and greatest of the Jaina saints. Above this are four other niches, similarly occupied, opening on the terraced roofs of the building. Near the four angles of the court are four other smaller shrines, and around them, or on each side of them, are 20 domes, supported by about 420 columns; four of these domes, the central ones of each group, are three stories in height, and tower over the others; and one, that facing the principal entrance, is supported by the very unusual number of 16 columns, and is 36 ft. in diameter, the others being only 24 ft. Light is admitted to the building by 4 uncovered courts, and the whole is surrounded by a range of cells, most of them unoccupied, each of which has a pyramidal roof of its own.



54. Plan of Temple at Sadree. From a plan by the Author. Scale 100 ft. to 1 in.

The general external effect of the Sadree Temple may be judged of by woodcut No. 55; owing to its lofty basement, and the greater elevation of the principal domes, it gives a more favourable impression of a Jaina temple than is usually the case; the defect of these buildings generally being their want of architectural design on their exterior faces.[1]

The immense number of parts in the building, and their general smallness, prevents its laying claim to anything like architectural grandeur; but their variety, their beauty of detail—no two pillars in

[1] A view of the interior is given in the author's Illustrations of Indian Architecture, plate x.

the whole building being exactly alike—and the grace with which they are arranged, the tasteful admixture of domes of different heights with flat ceilings, and the mode in which the light is introduced, combine to produce an excellent effect. Indeed I know of no other building in India of the same class that leaves so pleasing an impression, or affords so many hints for the graceful arrangement of columns in an interior.



55. External View of the Temple at Sadree.

Besides its merits of design, its dimensions are by no means to be despised; it covers altogether about 48,000 square feet, or nearly as much as one of our ordinary mediæval cathedrals, and, taking the basement into account, is nearly of equal bulk; while in amount of labour and of sculptural decorations it far surpasses any.

The other Jaina temples with which I am acquainted are generally less extensive and less interesting than the two above described; frequently they consist only of a square cell, covered with a pyramidal spire, and a porch of greater or less extent, without the enclosing court and its accompaniment of cells, &c.; although it probably was always intended that they should have this if completed.

In the Bengal provinces several of these Jaina temples have been converted into mosques, constituting some of the few remains of more ancient times that the bigotry of the Moslems has spared to us. One still exists at Canouge, on the Ganges, the only really ancient building remaining of that great city. Another, though of more modern date, is found at Dhar, near Mandoo, in Malwa. But by far the most remarkable is the collection of Jaina remains around the Kootub Minar, at old Delhi, where they form the most picturesque and interesting group of ruins now found in Northern India, and for elaborate exuberance of detail are almost unrivalled even in India.

The process by which this conversion of a Jaina temple to a Mos-

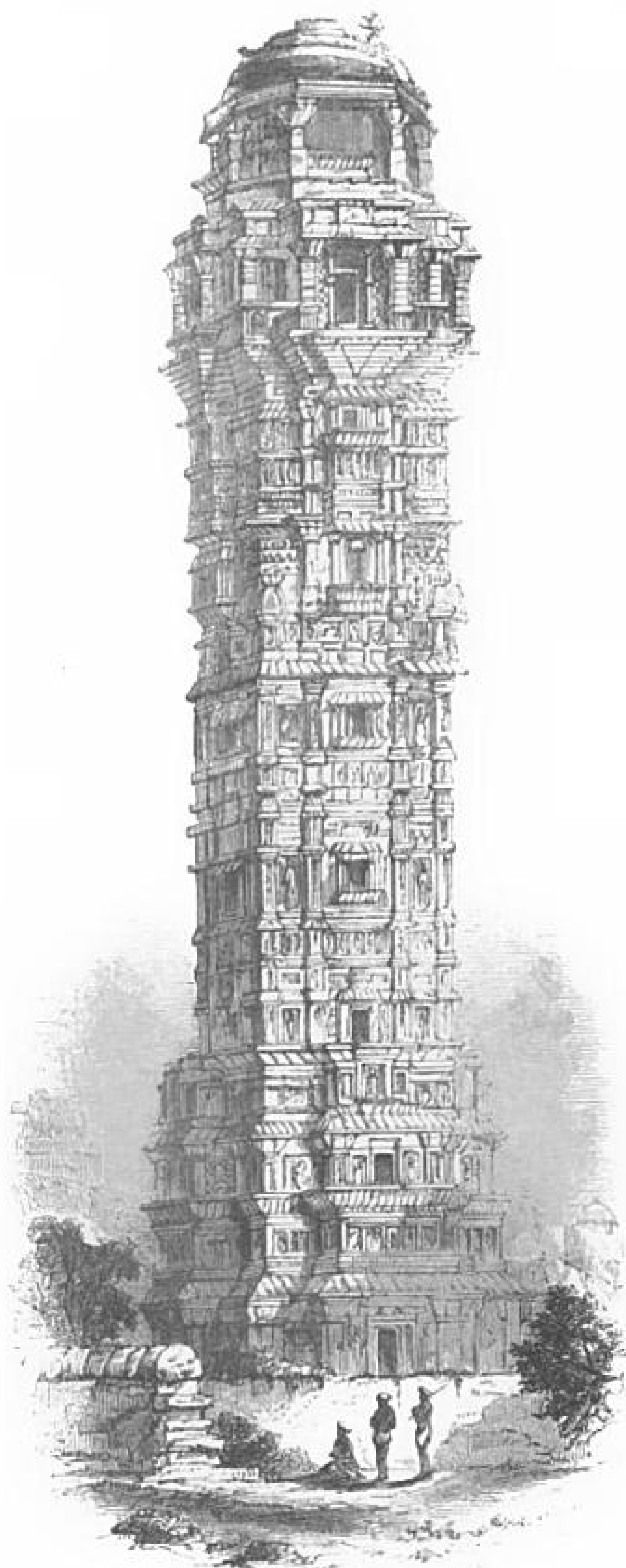
lem mosque was effected will be easily understood by referring to the plan of that of Vimala Sah, on Mount Abu (woodcut 43, p. 70). By removing the principal cell and its porch from the centre of the court, and building up the entrances of the cells that surround it, a court-yard was at once obtained, surrounded by a double colonnade, which always was the typical form of a mosque. Still one essential feature was wanting—a more important side towards Mecca; this they easily obtained by removing the smaller pillars from that side, and re-erecting in their place the larger pillars of the porch, with their dome in the centre, and, if there were two smaller domes, by placing them at each end. Thus, without a single new column or carved stone being required, they obtained a mosque which, for convenience and beauty, was unsurpassed by anything they afterwards erected from their own original designs. All this, however, will be more fully illustrated in a subsequent chapter of this work, when describing the Mahometan architecture of India, of which this transformation was the commencement, as it was the end of the style which has just been described.

TOWERS.

The Jains, like their predecessors the Buddhists, are great tower-builders; but towers are, in themselves, frailer structures than temples, besides which there is less zeal in preserving them, so that few remain perfect to our day. Two of these are still standing in the fort of Chittore. The older and smaller of the two, belonging apparently to the tenth century, is the most elegant in form and detail. It is not known for what purpose it was erected.[1] The other was raised by the same Khumbo Rana who built the temple at Sadree, to commemorate his victory over Mahmoud of Malwa, in the year 1439. It therefore is in Buddhist language a *Jaya Sthamba*, or pillar of victory, like that of Trajan at Rome, but in infinitely better taste as an architectural object than the Roman example, though in sculpture it may be inferior. As will be seen from the woodcut (No. 56) it is 9 stories in height, each of which is distinctly marked on the exterior. A stair in the centre communicates with each, and leads to the two upper stories, which are open, and more ornamental than those below. It is 30 ft. wide at the base, and more than 120 ft. in height; the whole being covered with architectural ornaments and sculptures to such an extent as to leave no plain parts, while at the same time this mass of decoration is so kept under, that it in no way interferes either with the outline or the general effect of the pillar.

The Mahometans, as we shall afterwards see, adopted the plan of erecting towers of victory to commemorate their exploits, but the most direct imitation was by the Chinese, whose 9-storied pagodas are almost literal copies of these Jaina towers, translated into their own peculiar mode of expression.

[1] See Illustrations of Indian Architecture, by the author, plate ix.



56. Tower at Chittore.

Of the civil architecture of the Jains we know little. In the few buildings remaining there is nothing to distinguish them from those of the Hindus, and nothing that can at all vie either in interest or beauty with the temples we have just been describing. These temples, though smaller than those of the Southern Hindus, and less grand than some of the Buddhist remains, are still, I must think, the most pleasing and elegant specimens, of internal architecture at least, that are now to be found in India. Could they be traced to their source, they would probably afford as pleasing a chapter of architectural history as any of the second-class styles we are acquainted with. At present the style is less known than any of the others found in India, and its history can scarcely be said to have been even broached, much less written by any of those who have hitherto given their attention to the subject.[1]

[1] In the above account of Jaina architecture I have omitted all allusion to the Indra Subba group of caves at Ellora, which are generally, and, I believe, correctly, ascribed to the Jains. I have done this because structural examples are so much more easily understood, that they are always preferable when they exist, and there is nothing in these caves remarkable in itself, nor anything that would throw more light on the subject than has been done by the examples above quoted. They look much more like Buddhist caves without cells than anything the Jains ever built, so far at least as we know, and, though interesting as specimens of cave architecture, have not the same merit as structural buildings. Illustrations of them will be found in Daniell's Views in the East.

BOOK II.

HINDU ARCHITECTURE.

CHAPTER I.

SOUTHERN HINDU.

CONTENTS.

CHRONOLOGY.

	DATES.
Kula Sechara founds Madura about the Christian Era.	
Vamsa Sechera rebuilds it, ninth century; founds the college of Madura.	
Vikrama Chola—rise of Cholan supremacy, capital Tanjore	A.D. 827
Vira Chola builds temple at Chillumbrum; Ari Vari Deva, his grandson, completes temple at Chillumbrum	A.D. 1004
Kylas at Ellora, excavated by Cholan princes about	1000
Rise of Chalukya power	1058
Trimul Naik rebuilds Madura	1621

The architecture of the Hindus may be divided into three perfectly distinct, though contemporary, styles. The first being the Southern Hindu—that practised by the Tamul races of the south—and wholly confined to the countries lying between Cape Comorin and the Nerbuddha or Vindya range.

The second, the Northern or Arian Hindu, found only between the Himalaya and the northern boundary of the last-mentioned style, in the countries into which the Arian or Sanscrit-speaking races penetrated, and where they settled, which are now known as the Bengal Presidency.

The third style is found only in Cashmere and the Punjab; it differs considerably from the other two, though possessing more similarity to the southern style than to that which intervenes between them.

Of the Northern Hindu style we have very few remains, and we shall hereafter see reason to believe that the art of temple-building never was practised in the North nearly to the extent which we find to have prevailed in the South.

There is perhaps no country in the world where temple-building has received so extraordinary a development as in the south of India,

taking the amount and the circumstances of the population into account. At no period of their history did the Tamul races rise to anything like importance politically, nor have we any reason for believing that these countries were ever more populous than they are at present. In literature they have done nothing original, all that they possess being borrowed directly from the Sanscrit of the Arian races of the north. In science, it need scarcely be added, they have made no advance whatever. Yet this country is covered with temples which, for extent and amount of labour bestowed on them, may rival Karnac and the most extensive temples of Egypt, and surpass even the cathedrals of the middle ages in complexity of design and variety of detail. Their relative merit as works of art is another question, which must I fear be decided against them; but, as specimens of patient devotional labour, they, so far as I know, stand as yet unrivalled in the architectural history of the world.

Historical Notice.

If a line be drawn east and west from Madras to Mangalore, it will cut off a portion of India forming nearly an equilateral triangle of 400 miles a side, within which are situated almost all the great temples of Southern India.

To the north of this line the country seems never to have been sufficiently thickly peopled, at least in ancient times, for any rich or powerful states to have been established within its boundaries. Consequently, we do not find many temples there, and those that are known to exist have been so imperfectly drawn or described that they cannot at present be rendered available for elucidating the history of the style.

The country to the south of this line has from the earliest times been inhabited (above the Ghâts at least) by people of the pure Tamul race, who, so far as we know, are aboriginal in the country. As far as their traditions reach they have been divided into three kingdoms or states, the Pandyas, the Cholas, and the Cheras, forming a little triarchy of powers, neither interfered with by the other nations of the earth, nor interfering with those beyond their limits. During the greater part of their existence all their relations of war and peace have been among themselves, and they have grown up a separate people, as unlike the rest of the world as can well be conceived.

Of the three, the most southern was called the Pandyan kingdom, and was the earliest civilized, and seems to have attained sufficient importance about the time of the Christian era to have attracted the special attention of the Greek and Roman geographers. How much earlier it became a state, or had a regular succession of rulers, we know not,[1] but it seems certainly to have attained to some consistency as early as five or six centuries before the Christian era, and maintained

[1] The best account of this state is that given by Professor Wilson in vol. iii. of the Journal R. A. S., but many scattered notices are found in Taylor's Analysis of the Mackenzie MSS. and elsewhere.

itself within its original boundaries, till in the middle of the last century it was swallowed up in our all-devouring aggression.

During this long period the Pandyans had several epochs of great brilliancy and power, followed by long intervening periods of depression and obscurity. The first and fifth or sixth centuries seem to have been those when they especially distinguished themselves. If buildings of these epochs still exist in the country, of which I see no improbability, they are utterly unknown as yet, as well as all those of the intervening periods down to the reign of Trimul Naik, A.D. 1624. This prince adorned the capital city of Madura with many splendid buildings, some of which have been drawn by Daniell and others. What more ancient remains there may be will not be known till the place has been carefully and scientifically explored.

The Chola kingdom extends from the valley of the Cauvery and Coleroon rivers, which seems always to have been their principal seat, nearly to Madras, all along the eastern coast, called after them Cholomandalam or Coromandel. The date of the origin of their kingdom is not known, but their political relations with Cashmere can be traced as early as the fifth century, and probably earlier. Their epoch of greatest glory, however, was between the tenth and twelfth centuries, when they seem to have conquered not only their neighbours the Pandyas and Cheras, but even to have surpassed the bounds of the triarchy, and carried their arms into Ceylon, and even as far north as Ellora, where the great Kylas cave was excavated, either by them or under their influence. After this period they had no great revival like the Pandyas under Trimul Naik, but sank step by step under the Mahometans, Maharattas, and English, to their present state of utter degradation.

The Cheras occupied the country above the Ghâts between Mysore and Madura, and to the west of the Chola country. They seem never to have been so important as either of their neighbours, and certainly never were such temple-builders, their country being singularly bare of important monuments of this class. They were conquered by the Cholas in the tenth century, and never afterwards regained their former power or position—having only shortly recovered their independence to sink again under the rising power of the rajahs of Mysore and Vijanuggur.[1]

Although, politically, these three states always remained distinct, and generally antagonistic, the people belonged to the same race. Their architecture is different from any other, but united in itself, and has gone through a process of gradual change from the earliest times at which we become acquainted with it, until we lose sight of it altogether in the last century. This change is invariably for the worse, the earlier specimens being in all instances the most perfect, and the degree of degradation forming an exact chronometric scale, by which we may measure the age of the buildings. Ascending

[1] For an account of the Chera kingdom see a paper by Mr. Dowson in vol. viii. of the Journal R. A. S.

upwards, we lose the thread of our architectural history just when we come to something so elegant and pure as almost to admit a comparison with some of the better specimens of classic art in more western lands.

The Southern part of India was the scene of protracted disputes between the Buddhist religion and that of the Hindus[1] from the fifth to the seventh century. These contests ended in the persecution and expulsion of the former, though their successors the Jains still flourished at Conjeveram, formerly one of the principal seats of the Buddhists, and in the Mysore. So completely was Buddhism extirpated, that no monument of that religion exists, so far as I know, to the south of the tope of Amravati described above.[2]

The Hindu religion, which thus became supreme, is commonly known by the name of Brahmanical, from the Brahmins or priests belonging to its two great sects. These two sects consist of the worshippers of Siva and of Vishnu, and are quite distinct from one another, and almost antagonistic. Both are now overloaded with a mass of the most monstrous and degrading superstition. The origin of the Sivite and Vishnave sects is unknown to us. We can confidently assert that neither of them was derived from the Indo-Germanic or Sanscrit-speaking races, whose simple monotheism was a pure fire-worship, similar to that of the Persians, and consequently as far removed from the absurdities of the Hindus as can well be conceived.

There are several very remarkable coincidences between the tenets of the Vishnaves and the recent discoveries in Assyria. Garuda, the eagle-headed Vahana, and companion of Vishnu, seems identical with the figure now so familiar to us in Assyrian sculpture, probably representing Ormazd. The fish-god of the Assyrians, Dagon, prefigures the fish Avatar, or incarnation of Vishnu. The man-lion is not more familiar to us in Assyria than in India, and tradition generally points to the West for the other figures scarcely so easily recognised—more especially Bali, whose name alone is an index to his origin; and Maha Assura, who, by a singular inversion, is a man with a bull's head,[3] instead of a bull with a man's head, as he is always figured in his native land. It is worthy of notice, however, that the ninth Avatar of Vishnu is always Buddha himself, and that in the fourteenth century there appears to have been no appreciable difference between the Jains and the Vishnaves;[4] which, with many other facts which it is needless to refer to here, point I think indubitably to a common origin for these three forms of faith—Buddhism being, so far as we know, the oldest derivative from that common source; Jainaism, a less pure modification; and Vishnaism, one suited to the capacities of the present inhabitants of India.

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[1] Many passages in the Mackenzie MSS., deposited at the East India House, refer to these disputes.

[2] See p. 14 and woodcut No. 9.

[3] See Dr. Babington, plate 4, vol. ii., Trans. R. A. S., for the sculpture at Maha Balipuram.

[4] Asiatic Researches, vol. ix. p. 270, and vol. xvii. p. 285.

The Sivite superstition cannot but be regarded as an indigenous form of worship belonging to some of the aboriginal tribes of India, modified no doubt to an immense extent by contact with the foreign forms of faith just alluded to; the whole being now so completely jumbled together as to appear parts of one great system, instead of merely being amalgamations of a vast number of heterogeneous elements, which have been floating about in the unfathomable sea of misguided imaginings of the Hindus during the long dark ages of their intellectual and political degradation.

There does not seem to be any essential difference either in the plans or forms of the Sivite or Vishnave temples in the south of India. It is only by observing the images or emblems worshipped, or by reading the stories represented in the numerous sculptures with which a temple is adorned, that we find out the god to whom it is dedicated. Whoever he may be, the temples consist almost invariably of the four following parts, arranged in various manners, as afterwards to be explained, but differing in themselves only according to the age in which they were executed:—

1. The principal part, the actual temple itself, is called the *Vimana*. It is always square in plan, and surmounted by a pyramidal roof of one or more stories; it contains the cell in which the image of the god or his emblem is placed.

2. The porches or *Mantapas*, which always cover and precede the door leading to the cell.

3. Gate pyramids, *Gopuras*, leading into the quadrangular enclosures which always surround the *Vimanas*.

4. Pillared halls or *Choultries*, used for various purposes, and which are the invariable accompaniments of these temples.

Besides these, a temple always contains tanks or wells for water—to be used either for sacred purposes or the convenience of the priests—dwellings for all the various grades of the priesthood attached to it, and numerous other buildings designed for state or convenience.

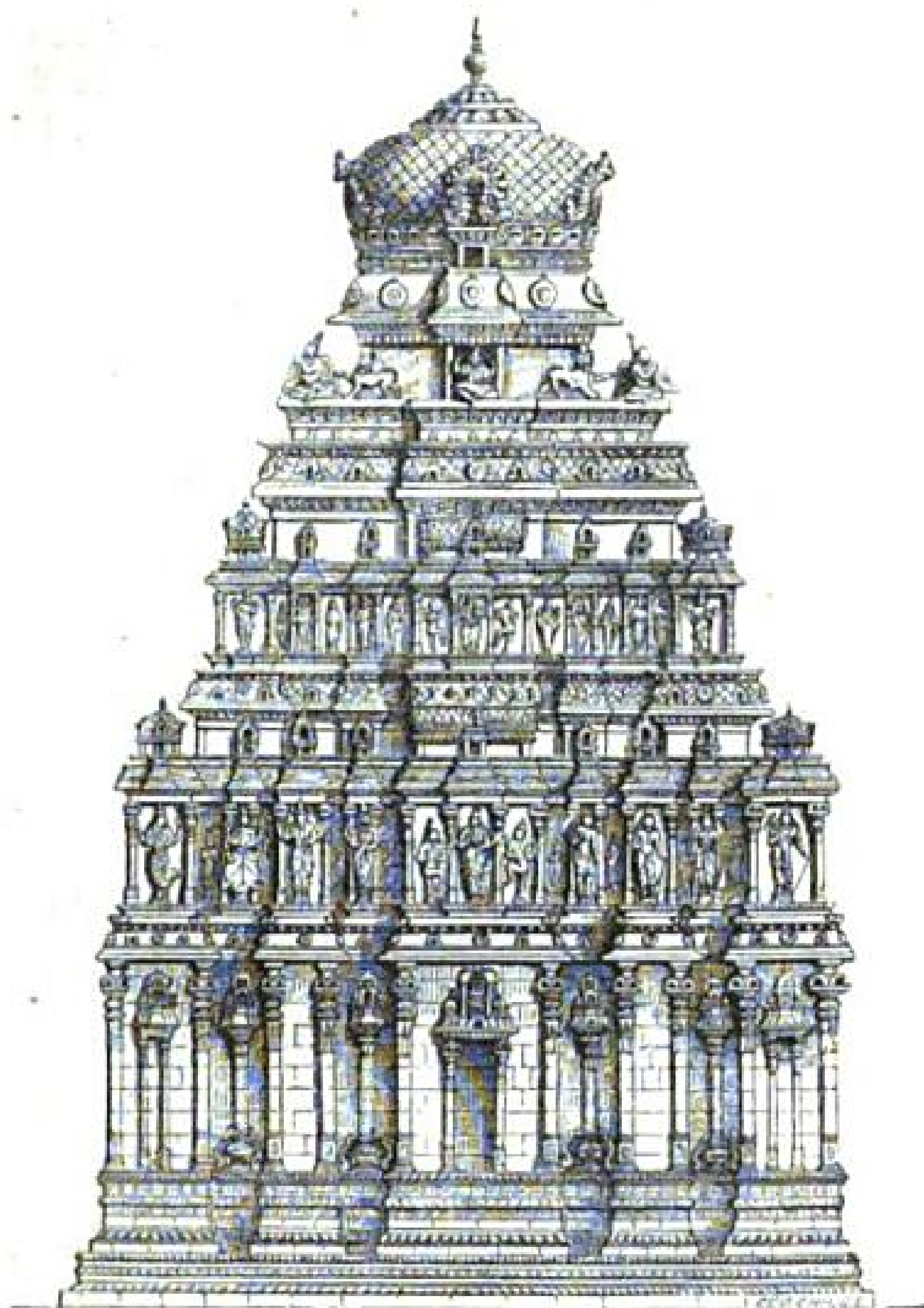
Vimanas.

The *Vimana*, though frequently not the largest, is always the most important part of a Hindu temple, being in fact the sanctuary or temple itself. As before stated, it is always square in plan. In smaller temples the perpendicular part is generally equal in height to its breadth, or, in other words, it forms a cube. In the larger temples its height is very much less than its breadth; but, nevertheless, I believe that the cell which it contains (the *garbha griha*, or womb of the house) is always a cube, or intended to be so; but it is so difficult to gain access to it, that I am by no means certain this is always the case.

The perpendicular part is always of stone, generally of granite, decorated with pilasters, niches, and other ornaments common to this style. The pyramidal roof is generally of brickwork covered with stucco. This in the smallest temples is only one story high, but in

larger ones, such as that at Tanjore (woodcut No. 60), it rises through 14 stories to a height of nearly 200 ft.

The annexed woodcut (No. 57) represents one 3 stories in height



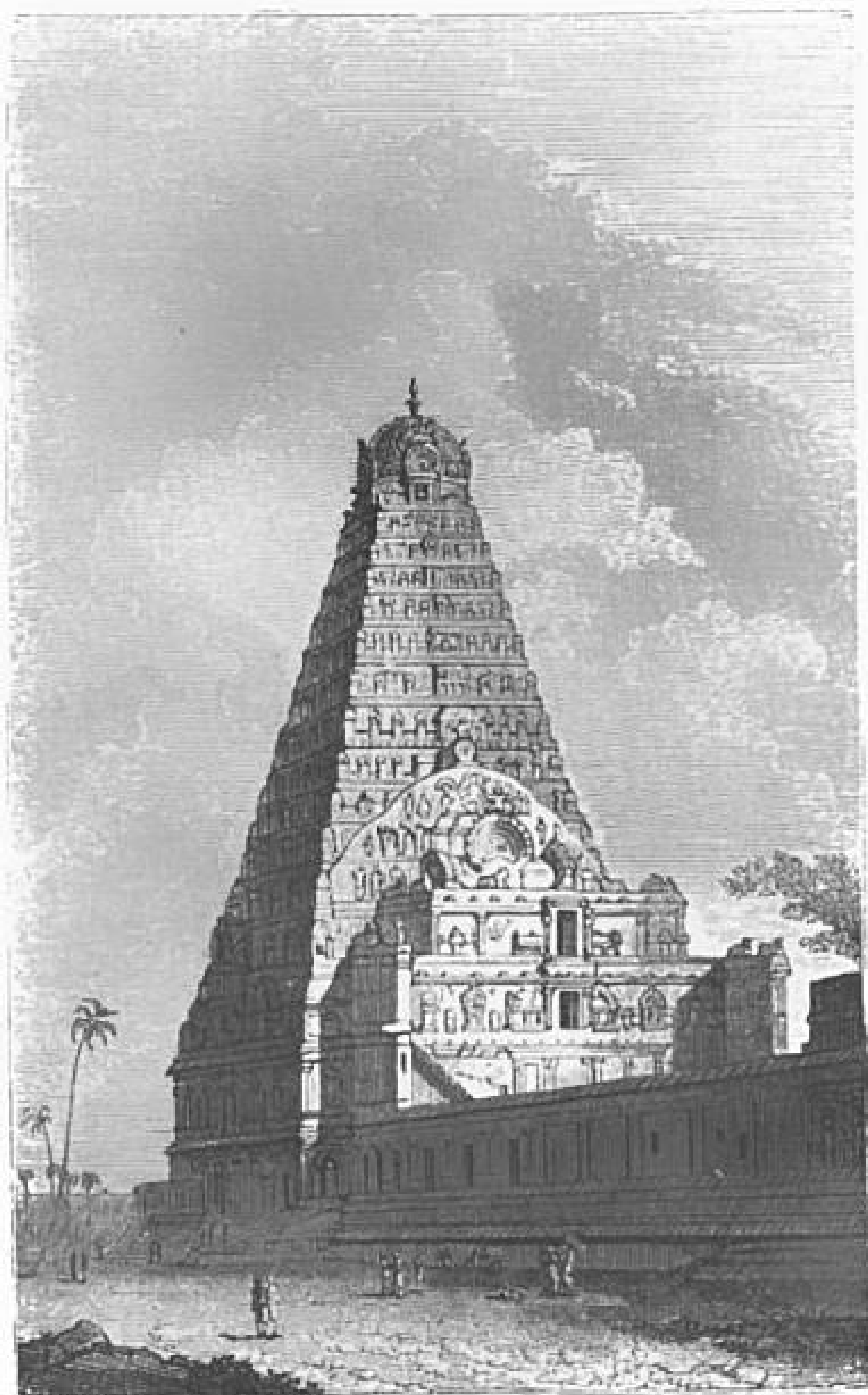
57. Perumal Pagoda, Madura. No scale.
From a MS. drawing in the possession of General Monteith, Madras Engineers.

at Madura, belonging probably to the age of Trimul Naik, and shows all the more interesting peculiarities of the more modern style. There is a complete resemblance between this building and one of the very curious rock-cut temples described above at Mahavellipore.[1] Every part of the one is represented in the other, with such differences only as the difference of age (about 300 years) would lead us to expect. Thus the little cells, which are the principal ornaments of the Mahavellipore temple, have here become niches. It is evident that both are derived from some common source, the later example receding farther from the original.

Both, it will be seen, are covered with a small domelike termination, which is common to all temples in the south, without exception,

[1] See p. 65, woodcut 42.

so far as I know; still in no instance can it be traced to a dome of construction. That it is borrowed from the Buddhist tope will be tolerably evident by referring to woodcut No. 41, where a similar termination covers a Nepalese kosthakar; but in that instance it undoubtedly is meant to represent the sacred emblem of the Buddhists. In the older example at Mahavellipore it looks more like the umbrella that crowns the Buddhist relic-shrine (see woodcut No. 14) than the relic-shrine itself; but in either case its origin can hardly be considered as doubtful.



58. Temple at Tanjore.
From the 'British Museum—Egyptian Antiquities,' vol. i. p. 188.

By far the most splendid temple in India is the great pagoda at Tanjore; its base measures 82 ft. each way, it is two stories in height, and its pyramidal roof rises through 14 stories to a height of 180 or 200 ft. Its age has not yet been satisfactorily ascertained, though its base is covered with inscriptions that would reveal its

history if any one would take the trouble to read them. As far as can be ascertained, it belongs to the great age of the Chola dynasty, probably the tenth or eleventh century; but if so, its upper part must have undergone a very thorough repair at some later date, possibly on its appropriation to Sivaism; for, as its gateways are decidedly Vishnave, the temple was probably so also when first built, but like many others in India given over to the more popular faith at some subsequent period. At all events it is the finest temple in the south, being almost the only one in which the *vimana* or temple is the principal object, round which the subordinate ones are grouped in such a manner as to make a great and consistent whole. Generally speaking, they have been aggregated together as if by accident, and the principal object is so overpowered by the secondary ones as utterly to destroy all appearance of design.

In most instances the light is admitted to the cell only by its doorway; but as if this were not sufficient to ensure the obscurity which they covet so much, as enhancing the mystery of the sanctuary, it is generally covered by an ante-temple, or pronaos—here called *Anterala*—generally about half as deep as it is broad, its breadth being the same as that of the cell.

PORCHES, OR MANTAPAS.

Beyond this is a porch, or *Mantapa*, which is usually a square building, in plan nearly identical with the temple itself, and having a door on each of its four sides, one leading to the cell of the temple, the other three admitting light and access to its interior. Its roof is generally pyramidal, but very much lower than that of the temple itself; but often it is flat, and devoid of any crowning ornament.

To this another porch sometimes succeeds; and when this is the case, the inner one is distinguished as the Ardha Mantapa, the outer as the Maha Mantapa. When joined together the outer is generally open in front and closed only on the sides, so that it does not materially obstruct the passage of light to the interior. Sometimes it is detached, and then takes any form that fancy may dictate.

The roof of these porches, when large, is supported with pillars; but the Hindu architects never willingly resort to this expedient, generally reducing the bearing as far as possible by bracketing and projecting cornices, and then aiding the long stones that form the ceiling by beams of wood, or even of iron, laid under them, so as to gain the requisite strength by any contrivance rather than by pillars. Many of the finest temples of India owe their ruin to this strange peculiarity in a people who in other instances were lavish of columnar arrangements to an extent unknown in any other part of the world.

GATE PYRAMIDS, OR GOPURAS.

The cell and its porch together form the temple, properly so called; but in all instances they were enclosed—or at least it was intended they should be so—in a rectangular court. The walls of this court

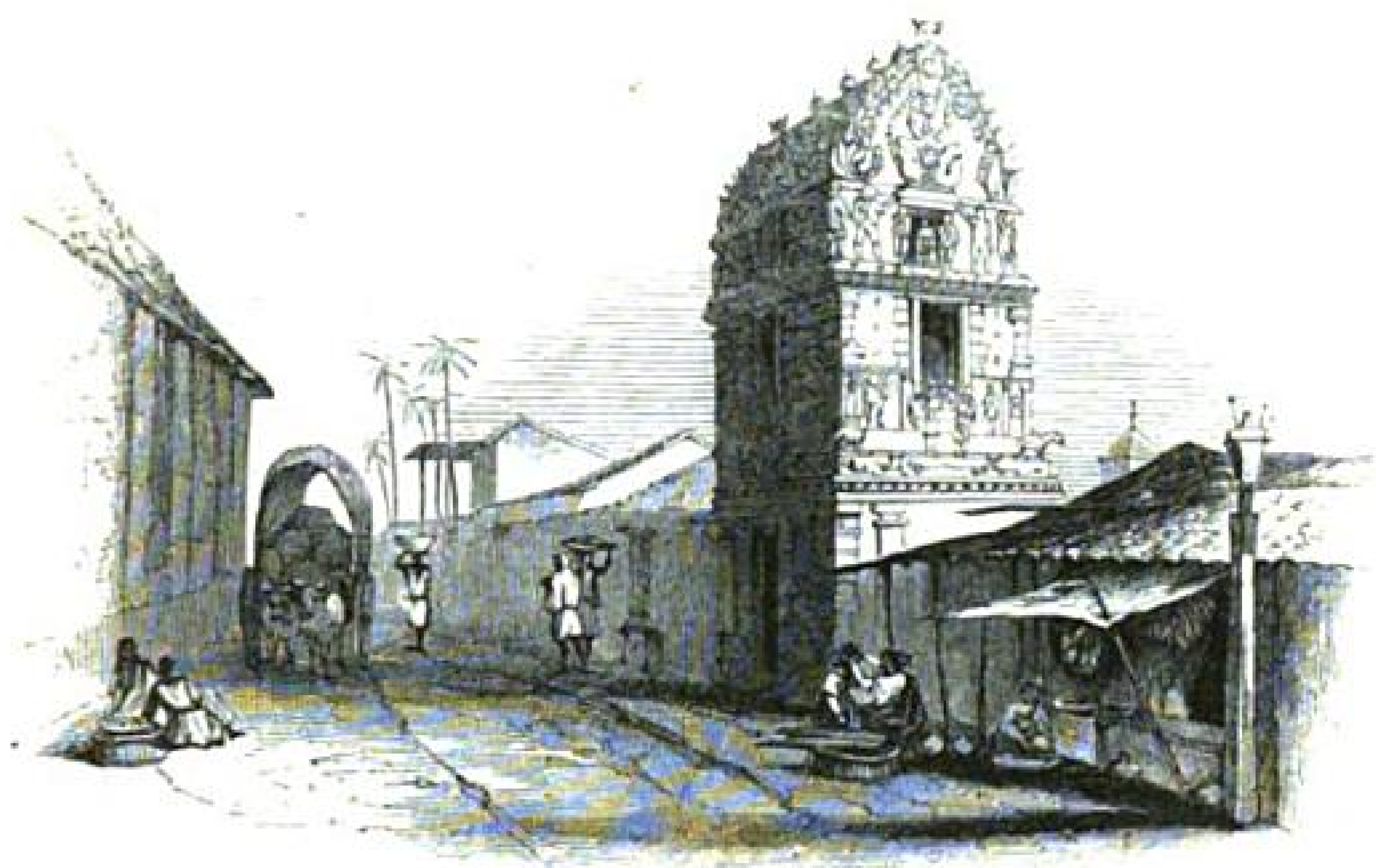
are high, and plain externally, but internally ornamented by colonnades and cloisters, or buildings of various sorts adapted to the service of the temple. This gave rise to the Gate Pyramids, which form the entrances to these courts.

When only one wall surrounded the temple, only one gateway was used, directly facing the porch. Where a second enclosure surrounded the first, the outer wall had usually two gateways, one in front of that of the inner wall, the other exactly opposite behind the temple; with 3 enclosures, 4 gopuras were required for the outer enclosure, one in the centre of each face. So that a temple, such as that at Seringham, with 7 enclosures, ought to have 23 gopuras; the number however is seldom complete, Seringham having, I believe, only 17, and no other that I am acquainted with so many.

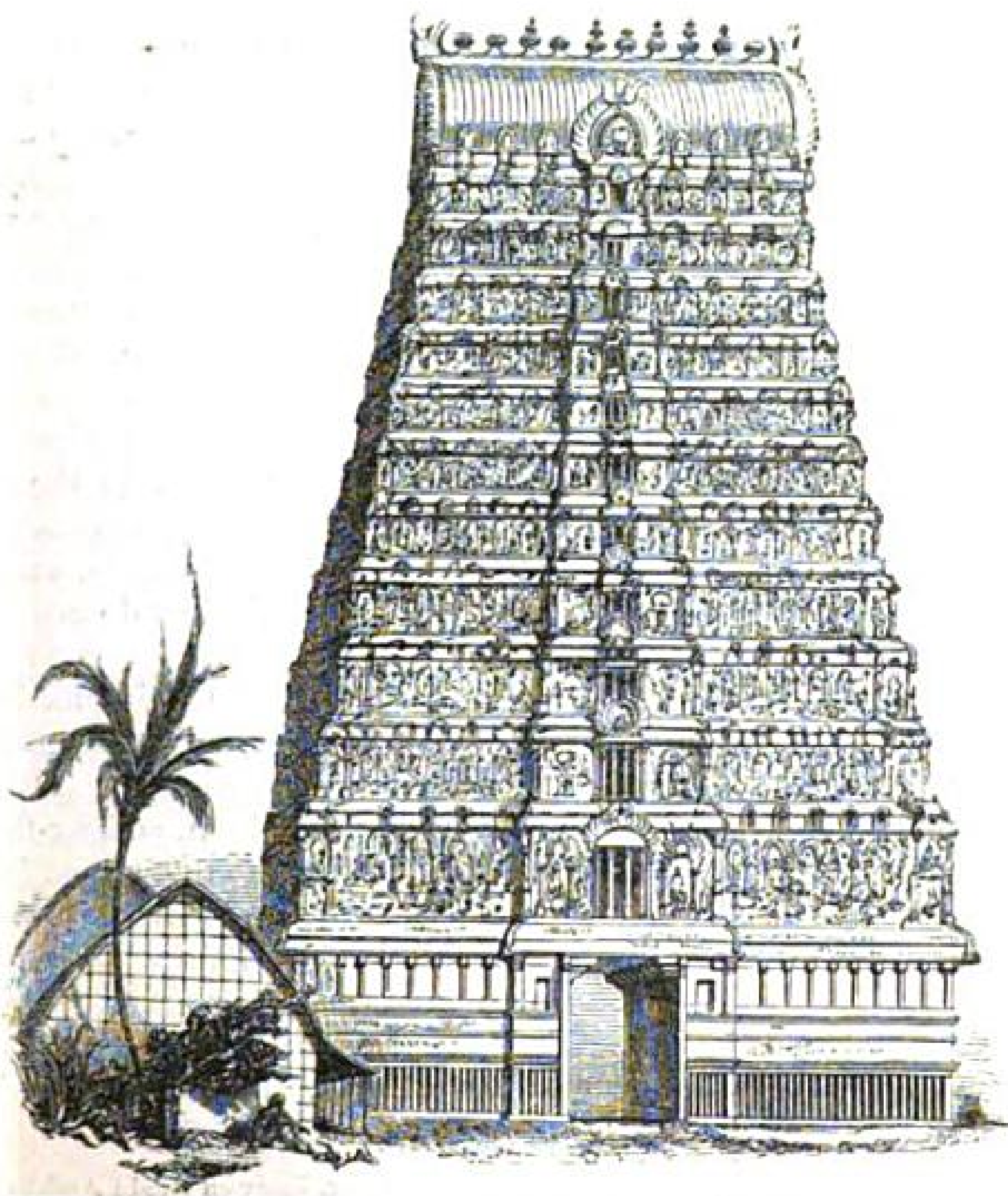
Another curious practice is, that the gateway is made to bear some proportion to the length of the wall in which it is placed. Thus at Seringham, the inner enclosure being 200 or 300 ft. square, the gate pyramid is only 40 or 50 ft. broad, and the passage through it 10 or 12 ft. wide, and 18 or 20 ft. high; while the outer ones, standing in walls 2475 and 2880 ft. in extent, are 130 ft. wide by 100 ft. deep, the opening 21 ft. 6 in. wide by twice that in height. The jambs are formed of single blocks of granite at least 40 ft. in length, and the whole is roofed by slabs of granite not less than 23 or 24 ft. long. These gateways, though not older than the beginning of the last century, are among the most stupendous buildings of the south of India. This arrangement gives rise to a singular piece of architectural bathos. The original small cell in this, as in many other instances, has become sacred from some mystical cause or other; and instead of either rebuilding it on a larger scale, or building over it, as the Buddhists would have done, the Hindu architect has merely regilt and re-ornamented it. Next another and another enclosure with its gate-towers has been added, so that there is no central object of attraction. Viewed externally, the temple is a congeries of gate pyramids without object, and on entering you pass from the most magnificent structures to those which are less and less so, till at last you arrive at the meanest thing of all, the sanctum sanctorum of the whole temple. To a Hindu its sanctity may hide all its defects; but the architect has certainly failed to work up to the greatness of his subject. Tanjore is one of the few temples in the south which escape this fault, so destructive of architectural grandeur.

The form of the Gopuras is easily understood, as it is identical with that of the Vimanas, except that, instead of being always square, they are always larger in one direction than the other, and their longer side is pierced with an opening occupying from one-fourth to one-seventh of the whole width. This oblong shape also necessitates the abandonment of the circular crowning ornament, which is lengthened out to correspond with the general section of the building.

This, like the form of the temples, is explicable by a reference to Buddhist buildings. The large long building, for instance, in woodcut No. 42, which almost undoubtedly represents the exterior of a



59. Entrance to a Hindu Temple, Colombo. From Sir J. E. Tennent's 'Ceylon.'



60. Gopura, Combaconum. From a Sketch by the Author.

Buddhist *Chaitya hall*, if pierced with an opening in the side instead of at the end, would form a *Gopura;* and the Hindus, when building in a Buddhist country, still adhere to this form more closely than in their own territories, as may be seen by the woodcut No. 59, representing the gateway of a temple in Ceylon, still retaining the simple form almost lost in the complication to which their gateways have been subjected in modern times.

One of the tallest gate pyramids I know of is that belonging to the principal temple at Combaconum (woodcut No. 60), which became the capital of the Chola after the temporary abandonment of Tanjore. It rises to 12 stories, including the basement, which is of granite and plain, while the whole of the pyramid is of brick stuccoed, and covered with sculpture and architectural ornaments to an extent undreamt of by European imagination. Its want of proportion, and the endless repetition of small parts, prevent its being so pleasing an architectural object as the smaller gate pyramids generally are, though it is certainly imposing from its mass.

Pillared Halls.

By far the most extraordinary buildings connected with these fanes are the pillared colonnades or *choultries* which occupy the spaces between the various enclosures of the temples. They are of all shapes and sizes, from the little pavilion supported on 4 pillars up to the magnificent hall numbering a thousand.

Their uses too are most various: in ancient times they served as porches to temples; sometimes as halls of ceremony, where the dancing-girls attached to the temples dance and sing; sometimes they are cloisters surrounding the whole area of the temple, at others swinging porches, where the gods enjoy at stated seasons that intellectual amusement. But by far their most important application is when used as nuptial halls,[1] in which the mystic union of the male and female divinities is celebrated once a year. Those dedicated to these festivals sometimes attain an extent of 1000 columns, and are called in consequence halls of 1000 columns, though they do not in all instances make up this complement.

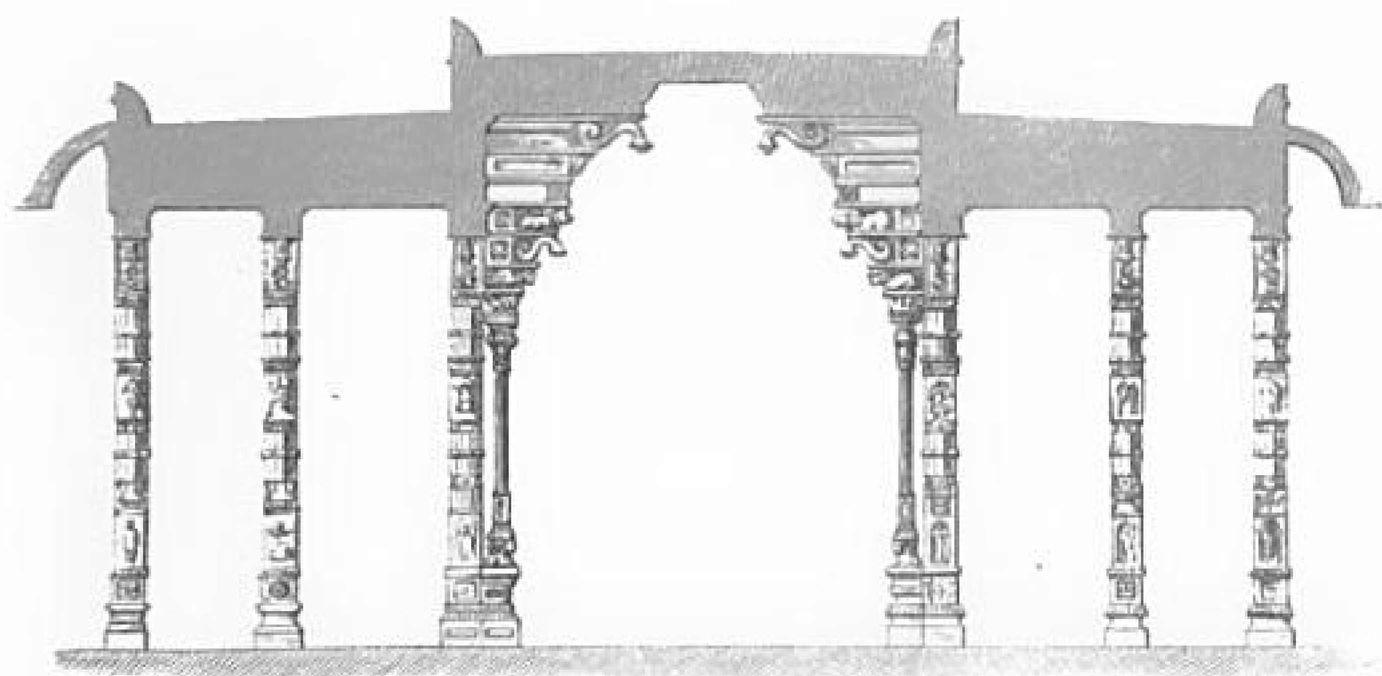
At Tinnevelly the great pillared hall has 100 columns in its length, by 10 in width, so that it would have exactly that number were not 24 omitted to make way for a small temple. At Chillumbrum the hall is 24 pillars wide by 41 in length, which, adding the 16 of the porch, would make up the number; but some are omitted in the centre to admit of space for ceremonies, so that the actual number is only 930. At Tiruvalur[2] the great hall is 16 pillars wide by 43 in depth, or 688; one-half of them, however, support no roof, so that it is probably unfinished. At Seringham the hall is of about the same extent; and several other temples have halls, the number of whose

[1] In this case they are called *chaōri*, the same word, I believe, radically, as *choultry*.

[2] Ram Raz, Essay on Hindu Architecture, plate xlviii.

pillars varies from 600 to 1000; in almost every instance composed of a hard close-grained granite, covered with sculpture from the base to the capital, and in most instances no two pillars are exactly alike. There is thus an endless and bewildering variety in the detail, though the general dimensions and effect are the same.

The construction of these choultries will be best understood from the annexed section of one used as a porch to a small temple at Chillumbrum; as will be seen, it is a five-aisled porch, supported by six

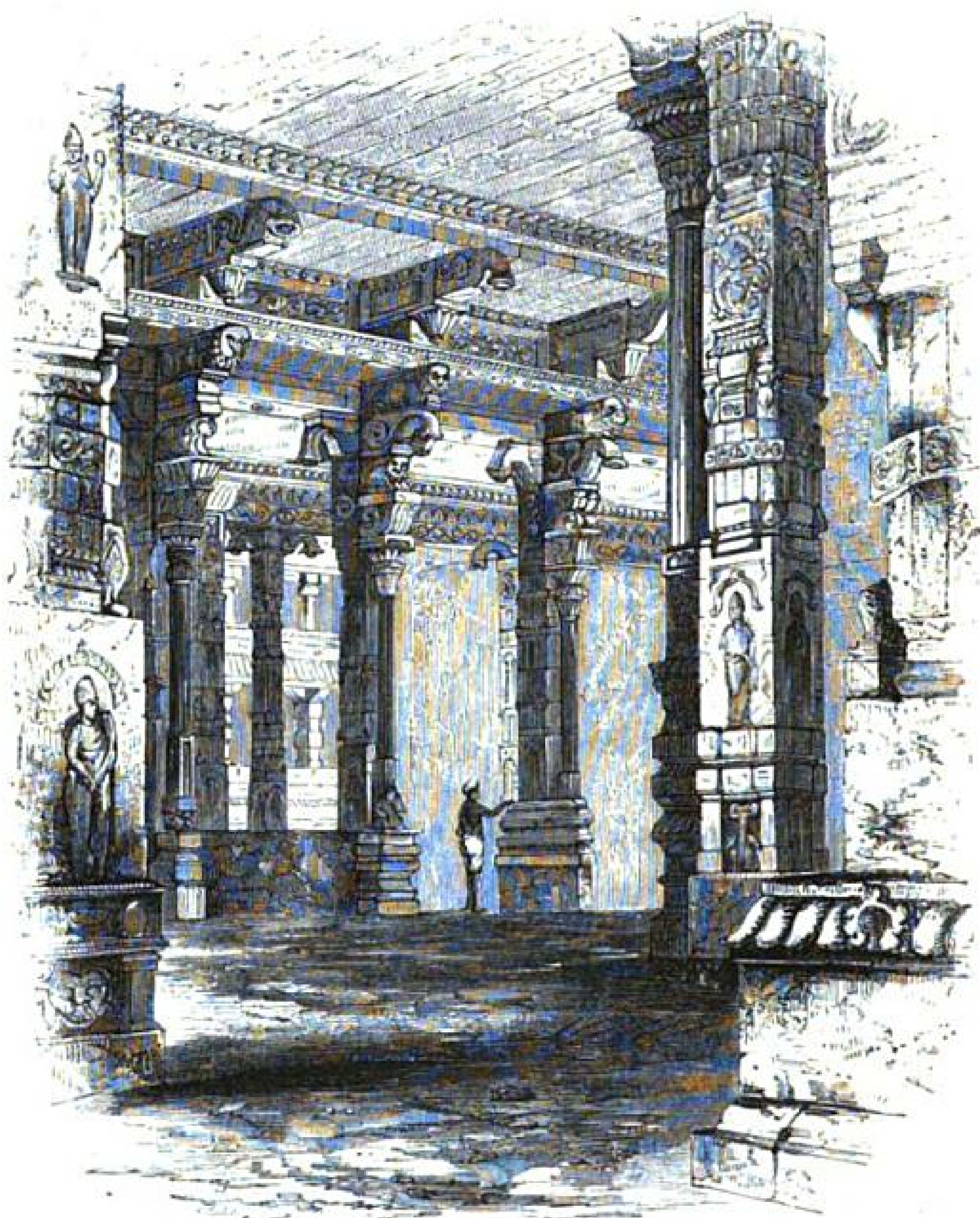


61. Section of Porch of Temple at Chillumbrum. From a Sketch by the Author. No scale.

square columns, about 18 in. each way and 20 ft. in height. The outer aisles are only 6 ft. in width, the inner 8 ft., and they are roofed simply by flat stones laid side by side. The whole energy of the architect, however, has been reserved for the central aisle, which has a clear width of 21 ft. 6 in.; a space so wide that it would be difficult to span it without using stones so heavy as to crush the substructure. To avoid this a bracketing shaft of singular elegance is attached to the front of the square pillar, and a system of bracketing carried up till the space to be spanned by flat stones is about equal to that of the side aisles, or in other words the space between the pillars is divided into three equal portions of about 8 ft. each, the side portion borne on the brackets, and the central space only remaining to be roofed. Lest, however, there should be a tendency to lateral weakness in so extensive a bracket, about half-way up it a stay[1] is introduced, in the form of a slight stone beam extending from one to the other, which certainly adds extremely to the elegance, and also probably to the strength of the structure.

The general effect of the arrangements of this porch will be seen from the woodcut No. 62, though it cannot do justice to its singular elegance and grace. This is the oldest example I have seen of the arrangement, dating probably from the tenth century, and therefore the most elegant. The more modern examples, though richer, have lost much

[1] Shown more clearly in the woodcut No. 62.

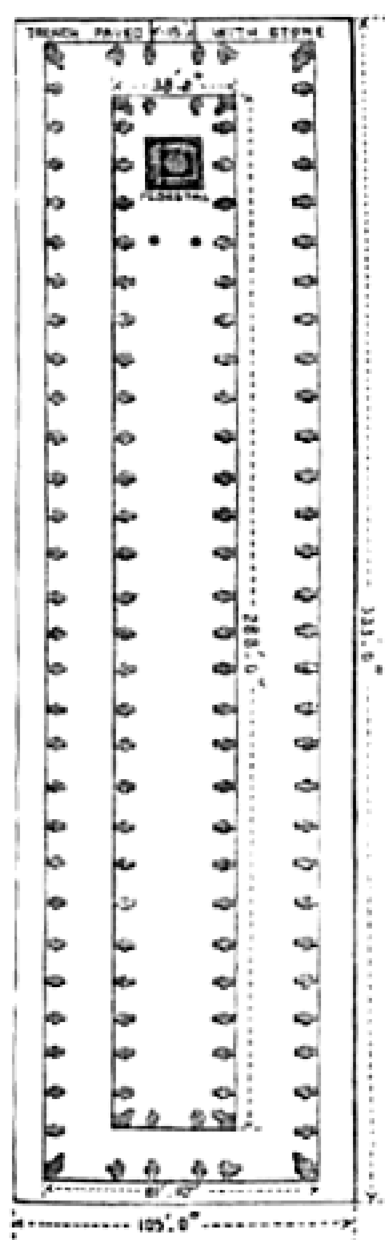


62. View of Porch at Chillumbrum. From Drawings by the Author.

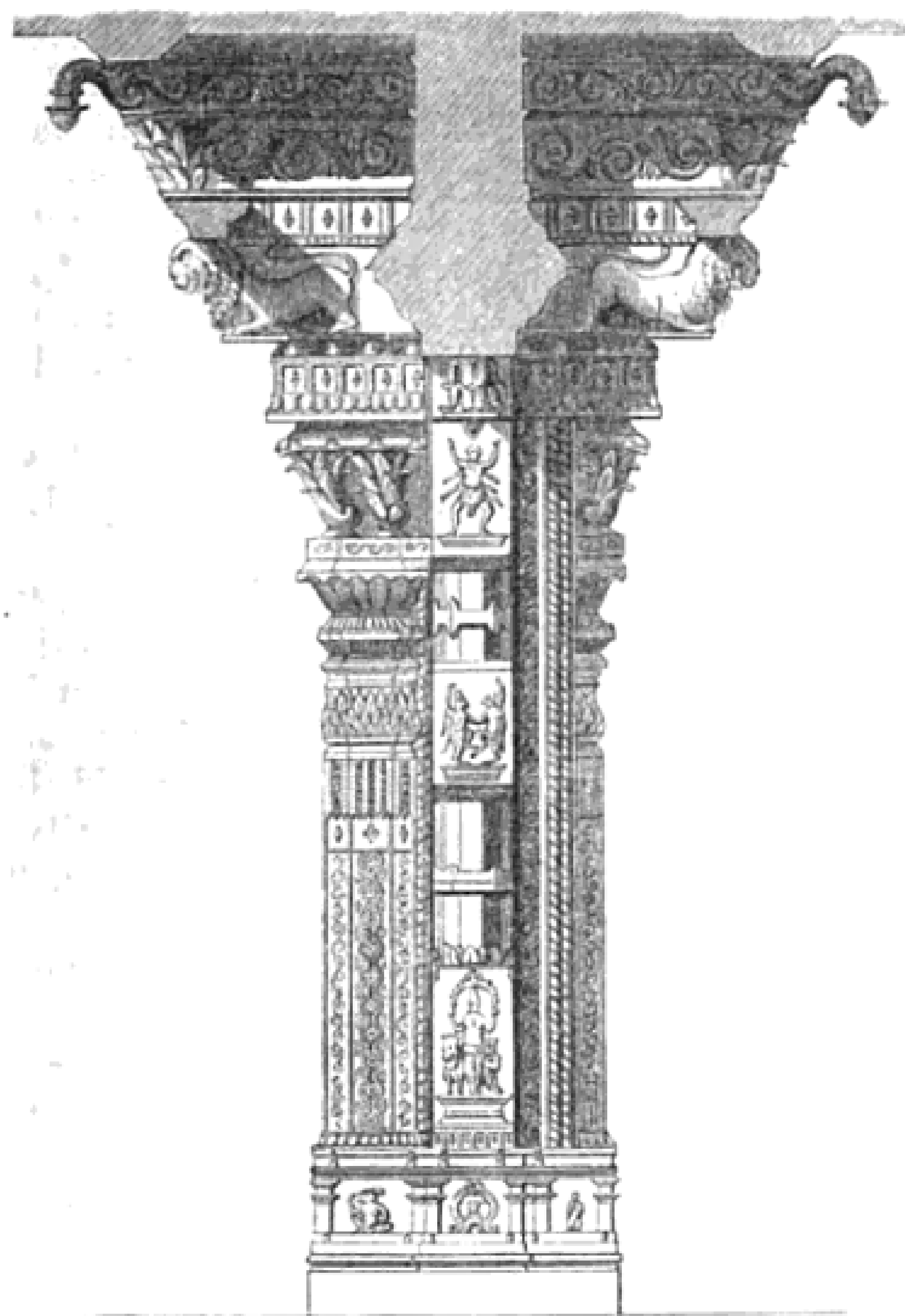
of the beauty, and nearly all the constructive propriety and grace, which we find in this. One of the most remarkable of these is the hall built by Trimul Naik at Madura, and tolerably well known to the English public from Daniell's illustration of it. It was commenced in 1623, is said to have cost nearly a million sterling, and occupied twenty-two years in its erection.[1] As will be seen by the annexed plan (woodcut No. 63), the building is 333 ft. long by 81 ft. 10 in. wide, and is supported by 128 pillars or piers, all of which differ, and all are covered with the most elaborate and minute architectural ornaments—many having figures attached to the fronts of them, as well as groups on their sides. In this instance the bracketing shaft has

[1] J. R. A. S., vol. iii. p. 232.

merged into the pillar; the whole becomes a pier from 5 ft. to 6 ft. in width, with scarcely a reminiscence of the original arrangement from which it sprang. The accompanying elevation of one of these (woodcut No. 64) will show the form which the piers took about this time, and which is common to them all, after this date, though not found before. The object in building this magnificent choultry was to provide a suitable abode for the god, who consented to leave his temple for ten days every year, and visit the king, on condition of his providing a suitable building for his reception.



63. Plan of Trimul Naik's Choultry.



64. Pillar in Trimul Naik's Choultry.

From drawings in the possession of the Royal Asiatic Society.

Between these two arrangements—the more modern, where the square pillars merge into flat piers, and the older one, in which the square shape is never lost sight of—come the pillared halls of the celebrated temple of Ramisseram on an island between Ceylon and the mainland. These are 5-aisled choultries, and encircle the temple twice, and with their various junctions extend to near 4000 ft. in length, with every variety of light and shade and complexity of form

and effect, making up one of the most vast and elaborate of all the temples in the south of India.[1]

Where the subordination of parts is preserved, the general effect of these choultries is pleasing, and, from their vastness, sometimes almost reaches to sublimity. But in the more modern times this quality is neglected, and, as at Tinnevelly and Chillumbrum, both of which were erected during the last century, the choultries are mere collections each of 1000 columns, placed at equal distances, generally no more than 6 ft. apart, without any variety or harmony of arrangement whatever. Such a forest of pillars, carved and elaborated as these are, cannot fail to produce some effect, but it would be difficult to conceive any design on which so much labour could be bestowed productive of so little of either beauty or grandeur.

In other instances, as at Seringham, Conjeveram, and elsewhere, a middle course is followed between these two extremes, the great hall being traversed by one wide aisle in the centre for the whole of its greater length, and intersected by transepts of like dimension running across at right angles. There still remain seven side-aisles on each side, in which all the pillars are equally spaced out. In these, looking outwards from the centre aisle, the arrangement is not without a certain magnificence of effect, but it neither has the sublimity of the long-drawn vistas of Ramisseram, nor the spacious exuberance of Trimul Naik's choultry at Madura.

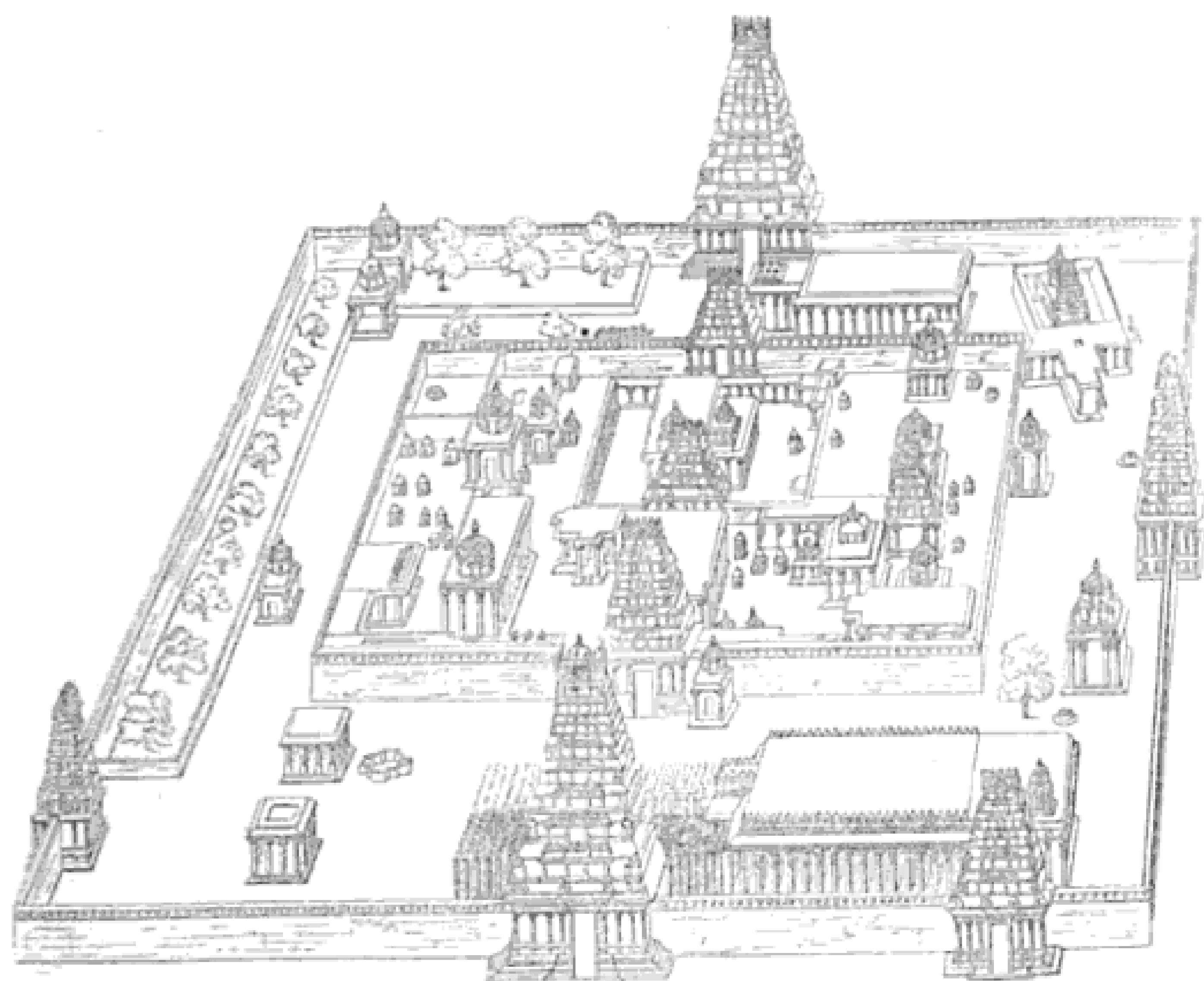
The mode in which those various parts are generally grouped together will be understood by the two following illustrations, one a plan of the temple at Tinnevelly, the other an isometric view of that at Tiruvalur, both comparatively modern examples, but sufficiently characteristic to explain all that has been said above of the style.

The temple at Tiruvalur measures externally 945 ft. by 701 ft., and has 5 gate pyramids in its outer enclosure, 2 in the second, and one in the inner. The sanctuary is double, and surrounded by a cloister. The next enclosure is crowded by temples and buildings of every shape and size, placed without the least reference to symmetrical arrangement. In the outer court are several larger temples, some placed at different angles from the rest; and towards the principal entrance is the great choultry, intended apparently to have had 1000 columns, but evidently unfinished, one-half of those already erected having no roof to support. As before mentioned, the number now standing is 688. These are all equally spaced, except that there is a broad aisle down the centre, and a narrower transverse avenue in the direction of the entrance. Hence it will easily be understood how inferior, as an architectural design, this is to such an arrangement as that of the 420 columns of the temple at Sadree,[2] or indeed of any Jaina building, however small. Their uniformly flat roofs prevent even the older choultries from reaching the beauty of these domical

[1] A plan of this temple is given in the Journal of the Geographical Society of Bombay, vol. vii. Salt published a view of its gopura, and in the India House are MS. views of its interior.

[2] See p. 79, woodcuts 54 and 55.

examples; while the modern ones are certainly immeasurably inferior.



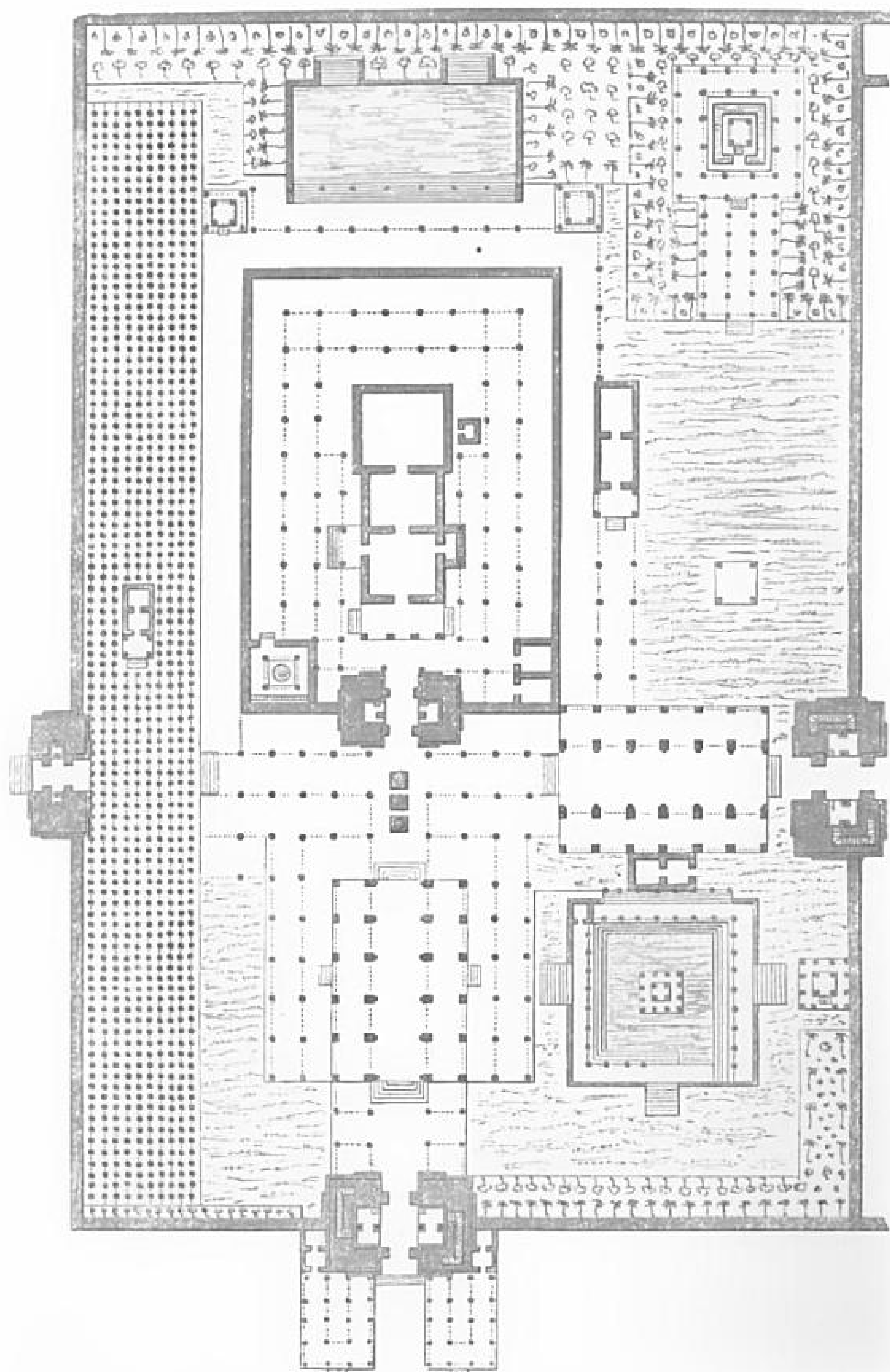
65. Temple at Tiruvalur. From a drawing in Ram Raz's Hindu Architecture.

Though neither among the largest nor the most splendid temples of Southern India, that at Tinnevelly will serve to give a good general idea of the arrangement of these edifices, and has the advantage of having been built on one plan, and at one time, without subsequent alteration or change. It is also a double temple, the great square being divided into two equal halves, one of which is dedicated to the god Siva, the other to his consort Parvati. The next woodcut, No. 66, represents one of the halves, which, though differing in arrangement from the other, is still so like it as to render the description of the other superfluous.

The general dimensions of the whole enclosure are 580 ft. by 756 ft., the larger dimension being divided into two equal portions of 378 ft. each. There are three gateways to each half, and one in the wall that divides the two; the principal gateway faces the entrance to the temple, and the lateral ones are opposite each other. An outer portico precedes the great gateway, leading internally to a very splendid porch, which, before reaching the gateway of the inner enclosure, branches on the right to the intermediate gateway, and on the left to the great hall of 1000 columns—10 pillars in width by 100 in length.

The inner enclosure is not concentric with the outer, and, as usual, has only one gateway. The temple itself consists of a cubical cell, surmounted by a vimana or spire, preceded by two porches, and is sur-

H 2



66. Half Plan of Temple at Tinnevelly. From a plan in the possession of the Royal Asiatic Society. Scale 100 ft. to 1 in.

rounded by triple colonnades. In other parts of the enclosure are smaller temples, tanks of water, gardens, colonnades, &c., but neither so numerous nor so various as are generally found in Indian temples of the class.

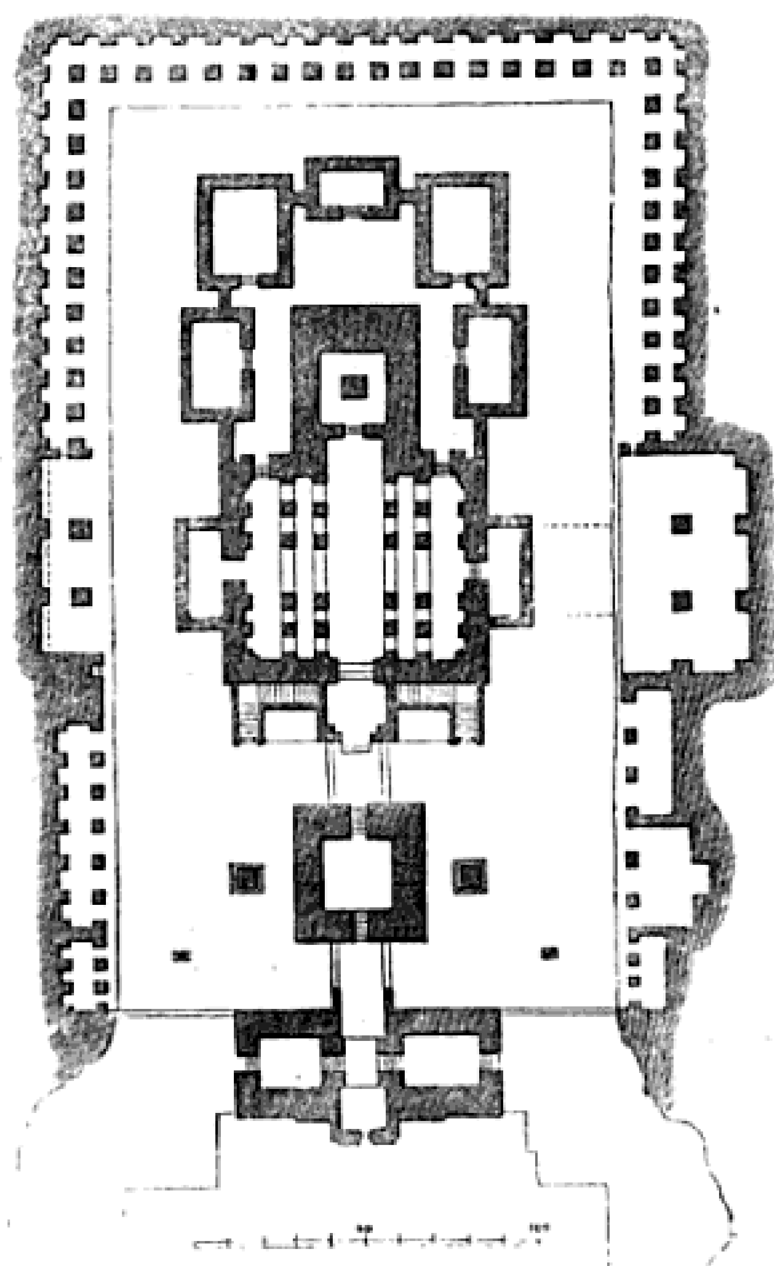
These temples have often been compared with those of Egypt, particularly that of Carnac. Undoubtedly there are many very striking points of resemblance. The *gopura* both in form and purpose is by no means unlike the great *propylon* of Egyptian temples: the *mantapa* is analogous to the *hypostyle* hall: and the inner enclosures, small cells, and insignificant central objects correspond very closely. We know also that there was considerable commercial intercourse between the two countries at a very ancient time. But on the other hand the two styles differ so widely in details and in purpose that we cannot positively assert the actual connection between them, which at first sight seems unquestionable.

A far more striking similarity exists between such a temple as this and that at Jerusalem; and if Josephus's description of that temple as rebuilt by Herod be read with such a plan as this of Tinnevelly before us, it is difficult to escape the conviction that the coincidences are not wholly accidental. That temple must, of course, be squared as these usually are, and the dimensions then become nearly the same. The great *choultry* is then the Stoa Basilica, the outer court that of the Gentiles. No separation of the sexes being known in the Eastern temples, the women's court is omitted; but the inner enclosure, the form of the temple, its gateway, its pillars, and other peculiarities are so like in both that we can scarcely doubt their being derived from some common origin. We probably have no means of tracing what that common origin may have been.

KYLAS AT ELLORA.

One of the most interesting monuments of Hindu architecture is the rock-cut temple at Ellora, generally known as the Kylas. From its beauty it always excited the astonishment of travellers, and in consequence is better known than almost any other structure in that country, from the numerous views and sketches that have been published of it. Unlike the Buddhist excavations we have hitherto been describing, it is not a mere interior chamber cut in the rock, but is a model of a complete temple, such as might have been erected on the plain. In other words, the rock has been cut away, externally as well as internally. The older caves are of a much more natural and rational design than this temple, because, in cutting away the rock around it to provide an exterior, the whole has necessarily been placed in a pit. In the cognate temples at Mahavellipore (illustrated woodcut No. 42) this dilemma has been escaped by their carvers having found the boulders of granite out of which they are hewn lying free on the shore; but at Ellora, no insulated rock being available, a pit was dug in the sloping side of a hill, about 100 ft. deep at its inmost side, and half that height at the entrance or gopura, the floor of the pit being

150 ft. wide and 270 ft. in length. In the centre of this rectangular court stands the temple, as shown in the annexed plan (woodcut 67), drawn to the usual scale, consisting of a vimana, between 80 ft. and 90 ft. in height, preceded by a large square porch, supported by 16 columns (owing probably to the immense weight to be borne); before this stands a detached porch, reached by a bridge; and in front of all stands the gateway, which is in like manner connected with the last porch by a bridge, the whole being cut out of the native rock. Besides these there are two pillars or sthambas also left standing on each side of the detached porch, and two elephants about the size of life. All round the court there is a peristylar cloister with cells, and some halls not shown in the plan, which give to the whole a complexity, and at the same time a completeness, which never fail to strike the beholder with astonishment and awe.



67. Kylas at Ellora. Corrected from a plan in Daniell's Views in Hindostan.

As will be seen by the annexed view, its general form is extremely similar to that of the principal temple at Mahavellipore (woodcut 42), and also to that at Tanjore (woodcut 58); and although it is not easy to make this apparent on the small scale of the woodcuts, I can assert, from personal inspection of the three examples, that they are identical as far as style is concerned. Some allowance, of course, must be made for the difference of age, the Kylas belonging to the ninth or tenth, the Mahavellipore Raths to either the twelfth or thirteenth centuries, and the Tanjore temple, though probably intermediate between the two, having, as before stated, been altered at some subsequent period to its present form. That they belong to the same race and the same religion seems undoubted; and they are, as will presently be shown, so unlike anything further north, that there can be little doubt that it is to an overflowing of the Tamul races that we owe the Kylas, and probably also the introduction of the Sivite religion into the countries occupied by the Arian races.

As the oldest of the three buildings, the Kylas presents an interesting peculiarity which we might expect, but do not find elsewhere,



68. Kylas, Ellora. From a sketch by the Author.

which is, that the cells surrounding the vimana are detached, five of them opening in a little court-yard in which the vimana stands, each with a separate entrance of its own, and destined for its own peculiar image or object of worship. The fourth side of this court is occupied by the porch. At Mahavellipore the cells may be called semi-detached, each being distinct, though in reality they are only false cells. In the Perumal pagoda (woodcut 57) they have grown to be actually parts of the vimana, and so they are always treated at the present day. It is interesting to trace the process from the detached cell of the Buddhists as found in Java to their present descendants, which, without the intermediate steps, we could scarcely recognise.

Considerable misconception exists on the subject of cutting temples in the rock. Almost every one who sees these temples is struck with the apparently prodigious amount of labour bestowed on their excavation, and there is no doubt that their monolithic character is the principal source of the awe and wonder with which they have been regarded, and that, had the Kylas been an edifice of masonry situated on the plain, it would scarcely have attracted the attention of European travellers at all. In reality, however, it is considerably easier and less expensive to excavate a temple than to build one. Take, for instance, the Kylas, the most wonderful of all this class. To excavate the area on which it stands would require the removal of about 100,000

cubic yards of rock, but, as the base of the temple is solid and the superstructure massive, it occupies in round numbers about one half of the excavated area, so that the question is simply this—whether it is easier to chip away 50,000 yards of rock, and shoot it to spoil (to borrow a railway term) down a hill-side, or to quarry 50,000 cubic yards of stone, remove it, probably, a mile at least to the place where the temple is to be built, and then to raise and set it. The excavating process would probably cost about one-tenth of the other. The sculpture and ornament would be the same in both instances, more especially in India, where buildings are always set up in block, and the carving executed in situ. Nevertheless the impression produced on all spectators by these monolithic masses, their unalterable character, and appearance of eternal durability, point to the process as one meriting more attention than it has hitherto received in modern times; and if any rock were found as uniform and as easily worked as the Indian amygdaloidal traps, we might hand down to posterity some more durable monument than many we are now erecting at far greater cost.

Before leaving the subject of southern temples, I must allude to another at Tanjore, which, at a distance, almost rivals in dimensions and outline the great pagoda (woodcut 58), of which it is evidently a copy. On a nearer inspection, however, it is found to be made up wholly of Italian details of the very worst class. The external cells are ornamented with Corinthian and Ionic pilasters, as badly designed as they are executed, alternating with ranges of balusters of the dumpiest and clumsiest forms. The whole is painted with a vulgarity which it is difficult to understand in a people who have shown such taste in earlier times, and so exquisite an eye for colour and detail. Such, however, are the effects of the miserable state of dependence to which they have been reduced, and such the results of an attempt to copy servilely a style utterly unsuited to their wants, and which they can neither understand nor appreciate. It is amusing to see another people trying this copying system. We see with half a glance how ludicrous the failure is with them; but while we so easily detect their speck, we utterly forget the beam that closes our own eyes.

Nevertheless, before the Hindus fell so low as this, their art went through another stage, not unproductive of beauty and elegance, and which might eventually have been elaborated into a style even surpassing their own more ancient forms. This new style is found in the buildings erected under the influence of the Mahometans, and adopts, to a certain extent, some of the more prominent forms of their architecture.

When the Mahometans first conquered India they imitated in their earlier mosques not only the details, but even the forms, of the Hindu architects, and their style in that country always bore strongly the impress of the land in which it was elaborated, still retaining its arched form, and a more daring construction than the Hindus had ever attempted. In process of time a complete reaction took place, and in their secular buildings at least, though scarcely ever in their temples, the Hindus began to adopt the arcades and vaults of their antagonists,

using them, however, in their own peculiar fashion, and making what may be called an amalgamation of two styles, rather than a mere copy of the other. Even if they had copied from the Mahometans, it would have been a very different thing from borrowing from another age or another clime that which had become antiquated, or was unsuitable. It was merely the adoption by one part of the inhabitants of a country of those forms which another and more energetic portion of its inhabitants had found best suited for their purposes.

In the south of India one of the most pleasing specimens of this style is a portion of the palace of Madura, commenced by Trimul Naik, and completed by his successors, now utterly fallen to ruin and decay. The part most illustrative of the new style is the great Hall of Audience, shown in the annexed woodcut; but other parts and other



69. Hall in Palace, Madura. From Daniell's Views in Hindostan.

halls show the same characteristics with more or less distinctness. It is not known by whom this hall was erected; at first sight it might be supposed improbable that the builder of the choultry illustrated above (woodcuts 63, 64) could adopt so different a style in his palace. Innovation, however, in secular affairs, is a totally different thing from novelty in things sacred, in India, as well as elsewhere; and the consequence is, that the change never reached the temples, though it was common in palaces in the seventeenth and eighteenth centuries.

I should be inclined to date the hall rather from the beginning of the eighteenth than in the seventeenth century; but without seeing it, it is hazardous to venture even a conjecture on such a subject.

To these points I shall have occasion to revert hereafter, when speaking of the styles of the north. In the mean while our limits warn us to take leave of a style well deserving of more attention than has hitherto been bestowed upon it. Its historic interest is very great: the buildings to which it gave rise are remarkable for their extent and number. It exhibits also great beauty of detail, especially in the older instances. The grandeur of some of its forms, and the general purpose-like attainment of the ends aimed at, give rise to effects as pleasing as they are startling, and afford hints well worthy of the study of any of those who wish to master the theory or practice of the art of architecture. For when a nation labours perhaps through thousands of years to attain a given object, small and mean as the individual efforts may be, the accumulated results attain importance such as no individual capacity ever could realize, and such as can only be reached by the united efforts of millions exerted through a long series of ages.

CHAPTER II.

NORTHERN HINDU STYLES.

CONTENTS.

CHRONOLOGY.

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Invasion of Cuttack by strangers coming by sea	A.D. 218
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FROM the earliest age at which tradition first sheds even the dimmest light on Indian history to the present hour, the valley of the Ganges has always been the richest and most populous part of the country. Here the first strangers settled, bringing with them the civilization of the West; here that civilization was elaborated into those peculiar institutions that still so strongly subsist after the lapse of thousands of years. It was in this valley that those heroes lived whose exploits are celebrated by the Indian epic and dramatic poets, whose works are now becoming familiar to us; and here it was that the religions of Buddha and Brahma arose, which still influence at least a fourth of the whole human race. Here, therefore, we naturally look for monuments to illustrate the manners and customs of those bygone ages; but we look in vain. It has been already said[1] that there are no certain traces of ancient Hindu architecture, that is to say, of anything previous to the spread of Buddhism. In Northern India, with the few exceptions to be shortly noticed, there are no genuine Hindu buildings at all earlier than the time of the Mahometan conquest.

We might be inclined to attribute this to the idol fanes of the vanquished race having been destroyed by the religious zeal of the conquerors. But this explanation is inconsistent with the fact that several Buddhist monuments remain in this very district, and many of the Jains, converted for the most part into mosques, though perfectly easy to be recognised. The phenomenon, therefore, can only be

[1] See p. 5.

accounted for by the assumption, confirmed as it is by other evidence, that the Arian race, which prevailed in this part of India from a very early period, was not in the habit of building temples or durable edifices of any kind.

It is only in the remote province of Orissa, or in the jungles of Rajpootana, that any examples are found of early Hindu buildings. Orissa, being on the boundary of the Tamul races, and as little influenced by Arian prejudices as can well be conceived, is covered with temples, some of which are of great magnificence; and though the province is remote, and always was comparatively poor, it possesses now more temples than the whole of the rest of Bengal. In Rajpootana, which, if tradition may be trusted, was far more influenced by the Huns—within at least the temple-building age—than by the Arian race, we find the same phenomenon. The little hill-fort, for instance, of Chittore has its brow garnished with more temples, and more architectural magnificence, than any of the great capital cities that once adorned the fertile plains watered by the sacred stream of the Ganges.

Orissan Temples.

So remote is the province of Orissa, that it is with the greatest difficulty we can glean even such scanty notices of its history as are usually available in Eastern countries. We know, however, from the inscription at Dauli, that Asoka sent hither his missionaries and published his edicts here; and it is evident from the caves on the Udyagiri that Buddhism did exist here from that period till some time after the Christian era. We know also that the famous Tooth-relic was preserved in this province up to the beginning of the fourth century, in a temple which stood where the far-famed temple of Juggernath now stands,[1] whose worship seems to be only a corrupt Buddhism, so overlaid with local Fetichism as scarcely to be recognisable.

It seems very doubtful whether, in the beginning of the fourth century, the kings of Orissa were Buddhist or Brahmanical—they wavered apparently between the two.[2] About that time the succession was disturbed by an invasion[3] of barbarians, who retained the country for 146 years. After this the original family, or at least the original race, regained power, and it is with them that our architectural history commences.

The earliest authentic building that we have of this race, or indeed of the Hindu religion in Hindostan, is the great temple of Bobaneswar, built by Lelat Indra Kesari, A.D. 657; and from this time to the present day the series is tolerably complete, showing a gradual progress of style

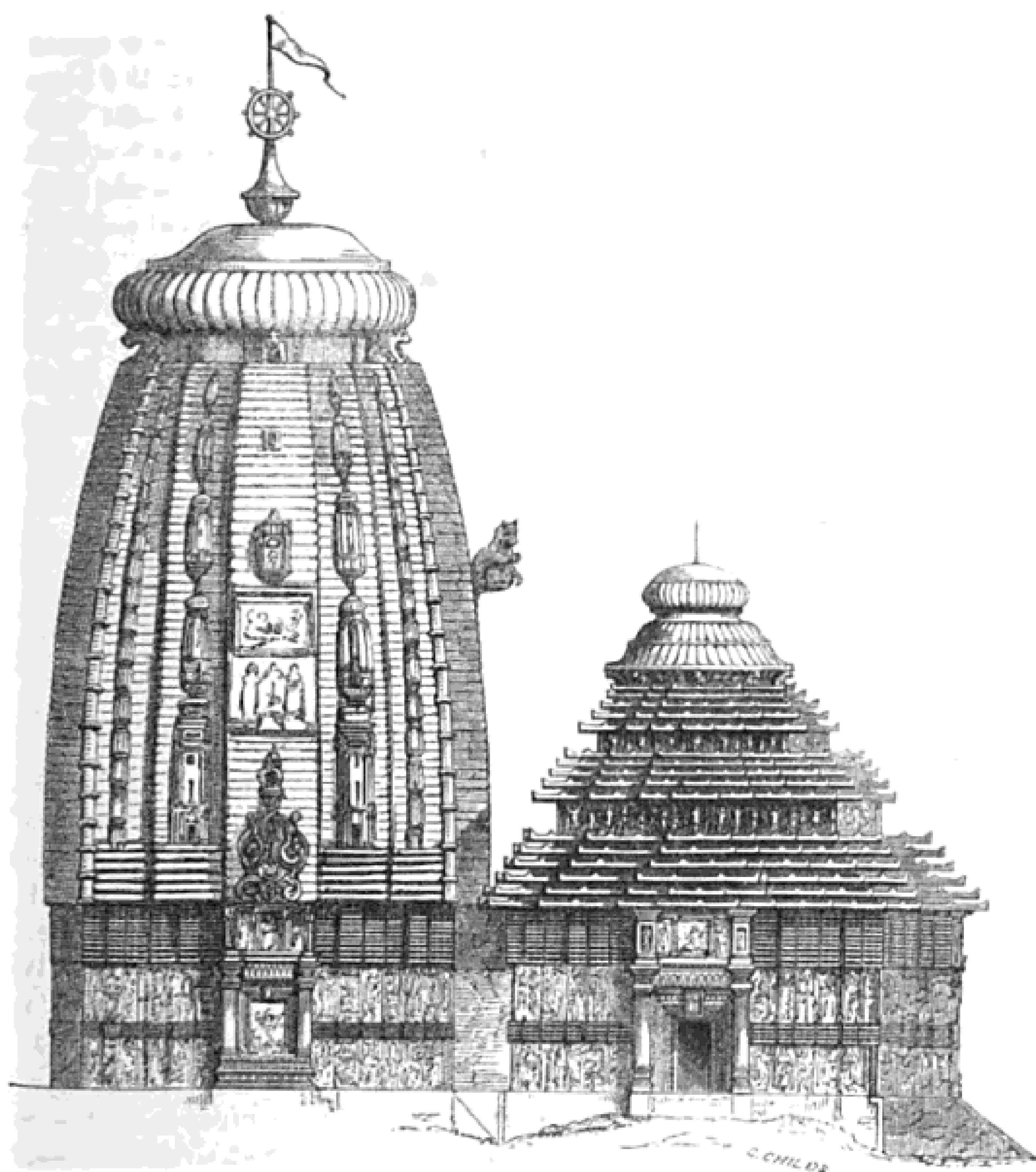
[1] The curious accounts given by Fa Hian in the beginning of the 5th century of the procession of the Tooth from its chapel at Anuradhapoora to Mehentele, and its return after a certain sojourn there, are so exactly transcripts of the annual festival of the Rath Jattra of Juggernath, that there can be no doubt but that the latter is merely a copy, a purely Buddhist peculiarity, and not at all belonging to Hinduism. See Foe Koui Ki, pp. 17 and 335.

[2] J. A. S. B., vol. vi. p. 856 *et seq.*

[3] Asiatic Researches, vol. xv. p. 263 *et seq.*

from the oldest to the most modern—slow it must be confessed, but still sufficient to enable a practised eye always to detect at least the century in which any monument was raised.

The annexed elevation (No. 70) will explain the peculiarities of



70. Restored elevation of the Black Pagoda at Kanaruc. From a drawing by the Author. No scale.

these temples, which are all built nearly on the same plan. They consist in the first place of a great tower or *vimana*, in the centre of which, as in those of southern India, is the cell, a cubical apartment containing the image. No light is admitted to this except by the door, and this is, in all great temples at least, preceded by a square porch or *mantapa*, with a door on each face; three opening towards the court, one to the cell. Other porches sometimes precede this one, but they are always detached buildings, or, if connected, it is only in a slight or temporary manner.

It will be observed that the *vimana* is a very differently formed building from those we have been describing as existing in the south.

It is no longer a pyramid in outline, and consisting of a definite number of stories, crowned by a dome or dagoba; the outline here is always curvilinear, the divisions vertical, and no trace of stories exists in any example I am acquainted with, much less of the cells which give so distinct a peculiarity to the southern temples. The mode, too, of crowning the summit, though slightly domical in appearance, can never have been by a dome of construction, nor derived from the same original as those that crown the temples in the south. Possibly it is taken from the Buddhist umbrella ornament, the original, as we have seen, of the spire or *tee*. Possibly it came in the first instance from some projecting form of wooden or metallic roofing. Nor can the other characteristics of this style of architecture be traced with any certainty to their origin. Whatever it was, all the transformations were gone through, and the style was as complete as it now is, when the great temple of Bobaneswar was built, no change having taken place since then, except in detail; and we must, therefore, look either for some earlier example, or some cognate style, if we would attempt to trace it to its source.

Some of these towers—such for instance as the great one at Bobaneswar; that of the Temple of Juggernath, built 1198, and the now ruined one of the Black Pagoda, erected in 1241—reached the height of 170 to 180 ft. At Bobaneswar alone more than 100 of these temples still exist, ranging from 50 or 60 ft. to 150 ft.—their proportions being very similar to those of the temple represented in the last woodcut (No. 70).

The porches of the great temples are nearly all similar to that of the Black Pagoda, at once the richest and the only one easily accessible to Europeans. It is a square building, about 60 ft. from angle to angle, and the perpendicular part about the same in height. On each face is a projecting doorway very richly ornamented, and the whole walls are covered with sculpture of an elaborate minuteness, only rivalled by that of Boro Buddor, though singularly different in character; this being, as far as the human figures are concerned, obscene in the extreme—while not the remotest trace of anything of the sort can be detected in any Buddhist or Jaina sculpture. Above the perpendicular part rises a roof in three stages, consisting of five or six projecting ledges of stone, the facets of which are all most elaborately carved with processions, or scenes from the chace or agricultural life. Between each series is a range of caryatides, but not a trace of cells, nor of the peculiar ornaments of the south. The whole is crowned by an inverted lotus-like dome-formed termination of singular grace and beauty. Internally it is a plain square apartment, measuring rather more than 40 ft. each way; the roof being formed of projecting stones to about the height of the first series of ledges; here wrought-iron beams about 8 in. square were placed across. On them a false ceiling of immense stones laid from side to side, and above this another similar ceiling exists at the next level. It seems also that a lower one once existed, at least the floor is encumbered by a mass of ruins that could not have come from the lower ceiling, which has

only partially fallen, though it is difficult to guess how stones of the required length could have been either raised or supported.

Sometimes the porch consists of a small portico of two or more pillars; but this arrangement is only found in the smallest and most modern temples, the style being essentially astylar, or devoid of pillars of any sort.

The great temples are all surrounded by square courts, enclosed by high walls, perfectly plain externally, but internally ornamented no doubt by cloisters or colonnades, the precise character of which it is difficult to determine, as the Orissans are singularly jealous of admitting Europeans to their sacred precincts, and at the Black Pagoda and other desecrated shrines the enclosure has generally disappeared.

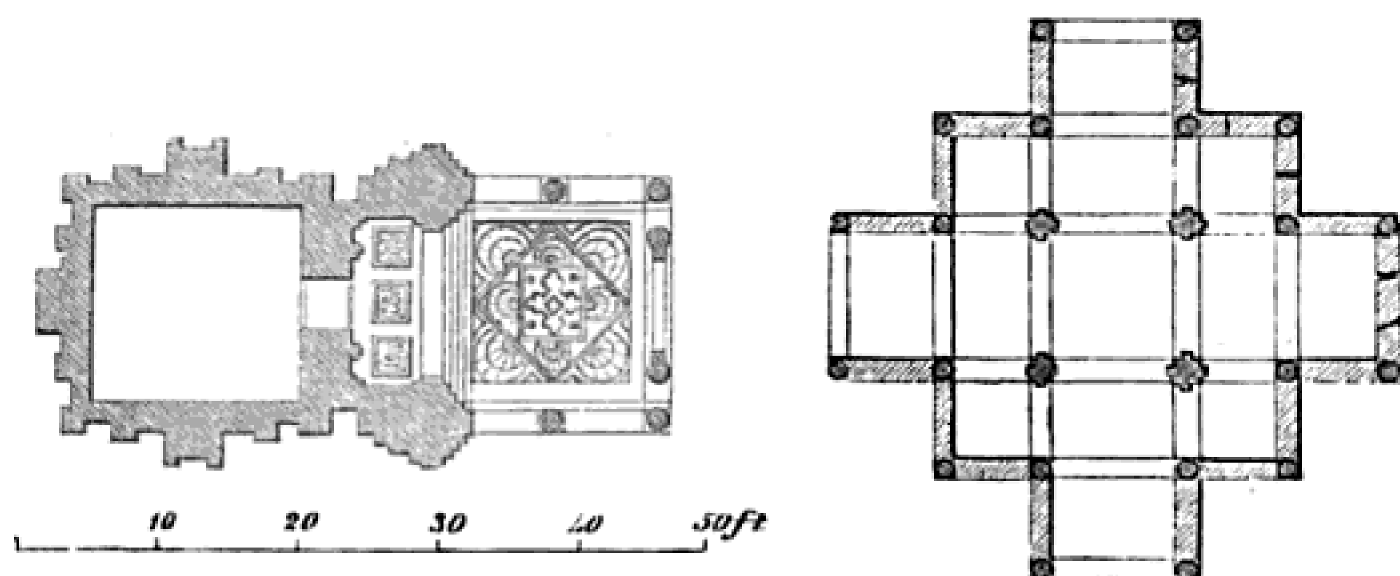
Temples in Upper India.

The temples found in the upper provinces of India are all smaller than the great temples of Orissa, and utterly insignificant in size as compared with those of southern India; still they are elegant in design, and, though few in number, they are almost the only landmarks we have to guide us through the dark labyrinth of Indian history in the middle ages.



71. Temple at Barrolli. From a drawing by the Author.

One of the most elegant of these is the now desecrated temple of Barrolli, situated in a wild and romantic spot, near the falls of the Chumbul, whose distant roar in the still night is the only sound that breaks the silence of the solitude that surrounds them. The principal temple, represented in the woodcut No. 71, was erected probably in the eighth or ninth century, and is one of the few of that age now known which were originally dedicated to Siva. Its general outline is identical with that of the Orissan temples. But instead of the enclosed porch, or *mantapa*, it has here a pillared portico of great elegance, whose roof reaches half way up the temple, and is sculptured with a richness and complexity of design that is almost unrivalled even in those days of patient prodigality of labour. It will be observed in the plan that the dimensions are remarkably small, and the temple is barely 60 ft. high, so that its merit consists entirely in its shape and proportions, and in the elegance and profusion of the ornament that covers it.

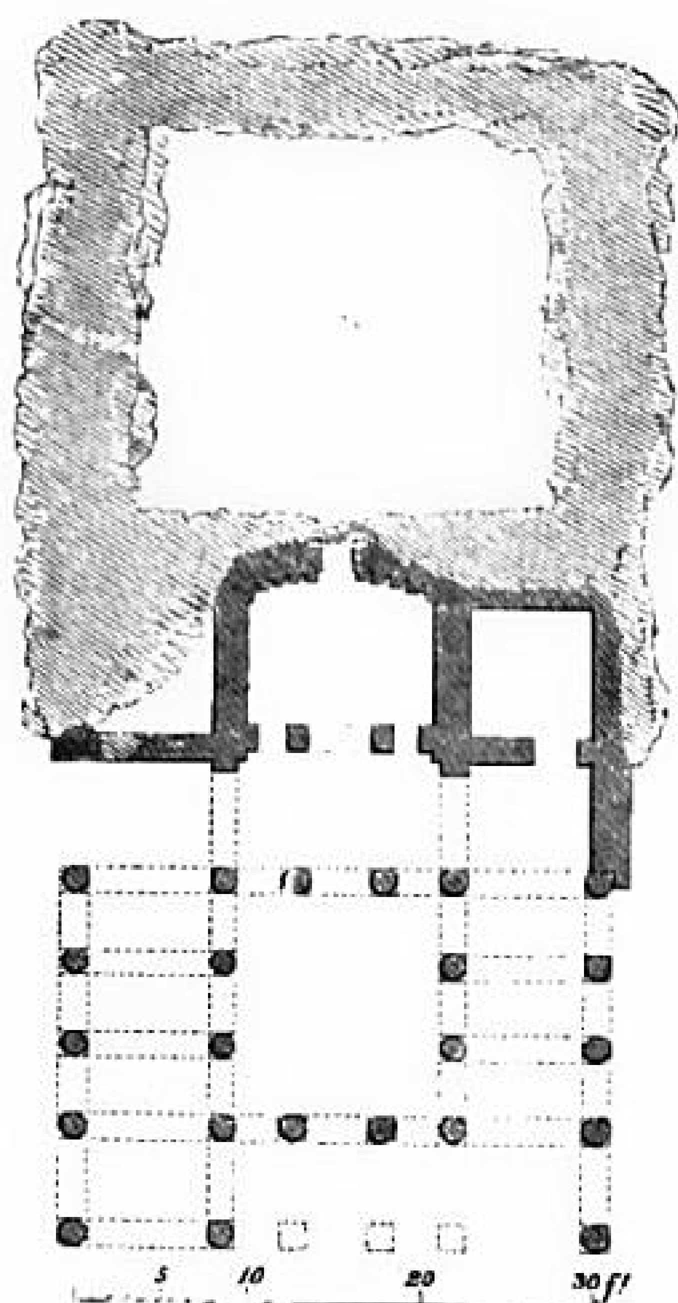


72. Plan of Temple at Barrolli. From drawings by the Author.

In front of the temple is a detached porch, here called a Chaöri, or nuptial hall (the same word I believe as Choultry in the south), in which tradition records the marriage of a Hoon (Hun) prince to a Rajpootni bride, for which purpose it is said to have been erected;[1] but whether this is so or not, it is one of the finest examples of those detached halls known in the north. We miss here the octagonal dome of the Jains, which would have given elegance and relief to its ceiling as well as variety to the spacing of the columns, and to the width of the aisles. These peculiarities were seldom if ever copied by the Hindus, but they seem to have attempted to gain sufficient relief to their otherwise monotonous arrangement of columns by breaking up the external outline of the plan of the mantapa, and by ranging the aisles diagonally across the building, instead of placing them parallel to the sides. In one instance, as Chandravati, not far from the last described, something more artistic has been attempted, as may be seen by the annexed plan, No. 73. It is older probably by some centuries than that at Barrolli, and, though sadly ruined, is the most elegant

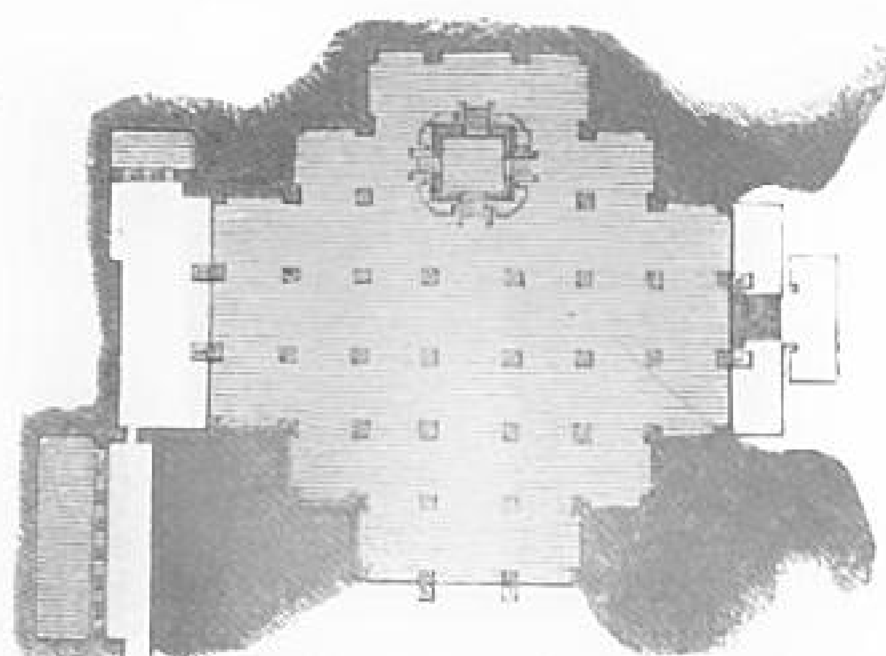
[1] Tod's Annals of Rajastan, vol. ii. p. 712.

specimen of columnar architecture (so far as I know) in Upper India.[1] The most elegant part of it is the roof, the central square having been covered with a quasi dome, on the principle shown in p. 74, the side compartments by large slabs deeply recessed, and covered with sculpture of the most singular elegance.



73. Temple at Chandravati.

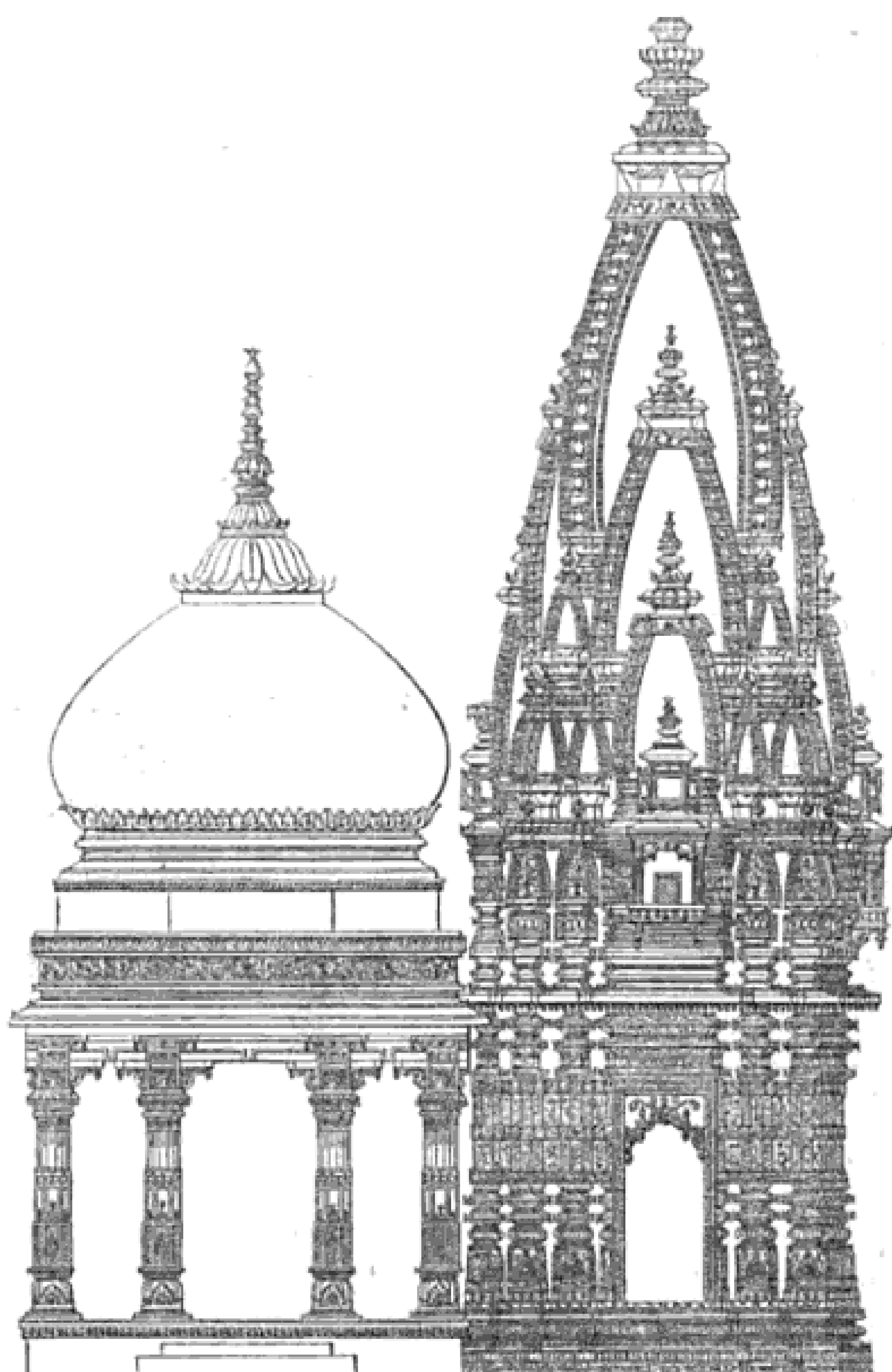
The whole arrangement, however, of this portico may be said to be exceptional—the Barrolli one being by far the most usual—and is carried to even greater extent in some of the caves; that at Elephanta, for instance, is only an amplification of it. The Dhumnar cave at Ellora (woodcut No. 74) closely resembles that at Elephanta in most respects, but is older and finer. It is 150 ft. in width, and its plan is that of a portico of 52 pillars; but being cut in the rock, four are omitted to make way for a *vimana*, which should have been placed externally, as at Barrolli; for the same reason also 12 of the outside pillars here become pilasters from the nature of the situation in which the building is placed. It is nevertheless the largest portico of its class I know of, no built example reaching anything like its size.


74. Dhumnar Lena Cave at Ellora. From Daniell's Views in Hindostan. Scale 100 ft. to 1 in.

In more modern times, though the temples generally retain something of the same form, yet the tendency is always to make the upper part more slender, and more in the form of a spire than of a tower, and to ornament it by grouping around it smaller models of spires, as we before noticed in speaking of the Pegue Pagoda. This is sometimes carried to such an extent, and with such a minute elaboration of detail, as is

[1] See Illustrations of Ancient Architecture in Hindostan, pl. 6, from which the woodcut is taken. See also Tod's Annals of Rajasthan, vol. ii. The plates are not numbered; the best, however, is the one representing two slabs of the roof of this porch.

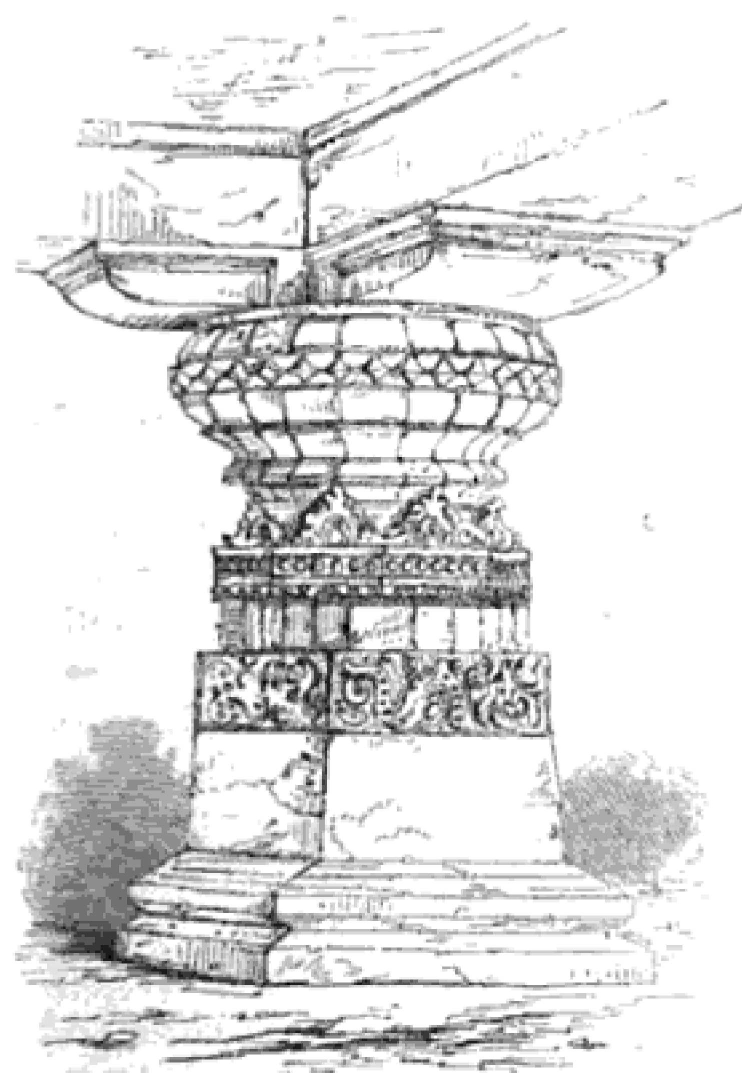
almost inconceivable by those who have not seen it. Generally speaking, this profuse ornamentation is so managed, that the details do not interfere with the outline; still their complexity takes away from anything like grandeur or greatness in design; and though some of these temples may deserve to be called the prettiest edifices possible, they can claim no higher merit. Another peculiarity is, that they sometimes borrow features from Mahometan architecture, imitating the domes and arcades of that style; but even these very parts are assimilated so completely to their own style, that the amalgamation is almost always pleasing. Both these peculiarities are well illustrated in the Vishvesher temple at Benares—the principal one of



75. Temple of Vishvesher, Benares. From Prinsep's Views in Benares. No scale.

that famous city, and said to be the oldest, though the present edifice can scarcely number 100 years. Like the temple at Tinnevelly, and many others dedicated to Siva, it is a double temple; the woodcut (No. 75) represents the plainest side, and omits one-half of the details,

which it was impossible to express to such a scale; indeed, it is almost inconceivable how much labour has been expended on a temple whose greatest length is only 47 ft., and greatest height 51 ft.; but such is the characteristic of Indian art at the present day, which does not reach beyond the rank of exquisitely elegant littleness. In former times they went to work in a bolder and manlier style, and with an admirable perception of the proper adaptation of the means to the end, as is observable more especially in some of the rock-cut examples. At Ellora, for instance, in one of the caves cut on the scarp of the Kylas, the pillars are more massive than in our heaviest Norman examples, and are designed with a boldness unmatched in any columnar architecture I am acquainted with, as may be seen from the annexed representation (woodcut No. 76). In built temples and porticos there was



76. Pillar in Kylas, Ellora. From a drawing by the Author.



77. Pillar in Barrolli. From a plate in Tod's Annals of Rajasthan.

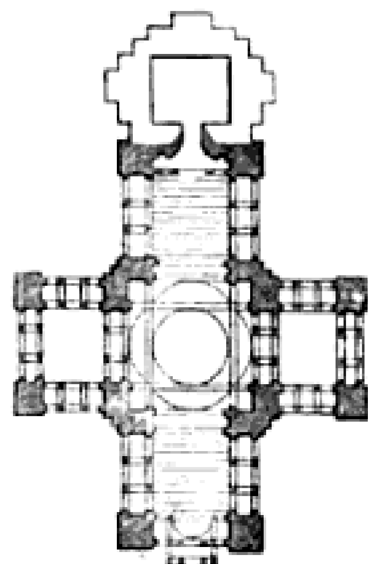
no need for such massive pillars as in the rock-cut examples. Still, at Chandravati, and in the earliest *buildings* generally, the pillars seldom exceed four or five diameters in height. They gradually become more and more attenuated as the style becomes more modern, taking very much the same form as those of the Buddhists and Jains, except that the Hindus use figure sculpture to a greater extent than was usual with their predecessors, as in the annexed example from Barrolli (woodcut No. 77), where 4 elegant female figures surrounding the base form the principal ornament of the shaft. This pillar has lost its bracket capital, which is the invariable accompaniment of Indian pillars of every age and style, and is, after all, perhaps, the most

elegant and appropriate mode of supporting an architrave that has yet been invented by the ingenuity of man.

Mixed Hindu Style.

During the existence of the earlier Patan dynasties of India, the bigotry of the Mahometans did not admit of the Hindus erecting temples of any pretension in the great cities over which they had obtained the dominion, and it is only in remote corners of the country that we detect here and there isolated examples of the style. With the beneficent and tolerant reign of the Great Akbar (1556 to 1605), a new era dawned for his oppressed subjects: not only were the Hindus tolerated and employed by him, but some of his most intimate friends and associates were of that race. Hence, while his own buildings show a strong tendency to the Hindu style, the Hindus, under his encouragement, erected edifices which display an even greater admixture of the Mahometan forms of architecture. These it is true were not retained, at least to any great extent, in sacred edifices, but in palaces and civil buildings their adoption was general, and remained permanent, giving rise to a style of perhaps even greater beauty than either had separately displayed.

One of the first and most striking examples of this new state of things was the erection by Maun Sing of Jeypore, the friend and prime minister of Akbar, of a temple at Bindrabun, the porch of which is unique in India, not only on account of the elegance of its outline and details, but from its having a vaulted roof, not constructed by projecting stones, but of true radiating arches like our Gothic vaults.



78. Plan of Temple at Bindrabun. By the Author. Scale 100 ft. to 1 in.

As will be seen from the plan, it is in the form of a cross, 100 ft. north and south by 120 ft. east and west, and almost identical in arrangement with such churches as St. Front Perigueux or the Pantheon at Paris, as we shall see hereafter. The central compartment (37 ft. square) is covered by a combination of ribbed and domical architecture, producing an effect not inferior to that of any Gothic vaulting I am acquainted with. The nave, to the east and west of the dome, is roofed by a waggon vault of pointed form, richly sculptured all over. The interior is complete and in perfect preservation, but externally the building either was never finished, or has been allowed to go to premature decay.

A number of similar temples were erected in this neighbourhood under the same influence, though none so magnificent nor so splendid as this. Afterwards the direct influence of Mahometanism gradually died out, and sacred buildings resumed nearly the same form as before, except only with such modifications as those shown in the temple of Vishvesher (woodcut 75), which may be considered as a typical example of the modern temple form of the Hindus. The change, how-

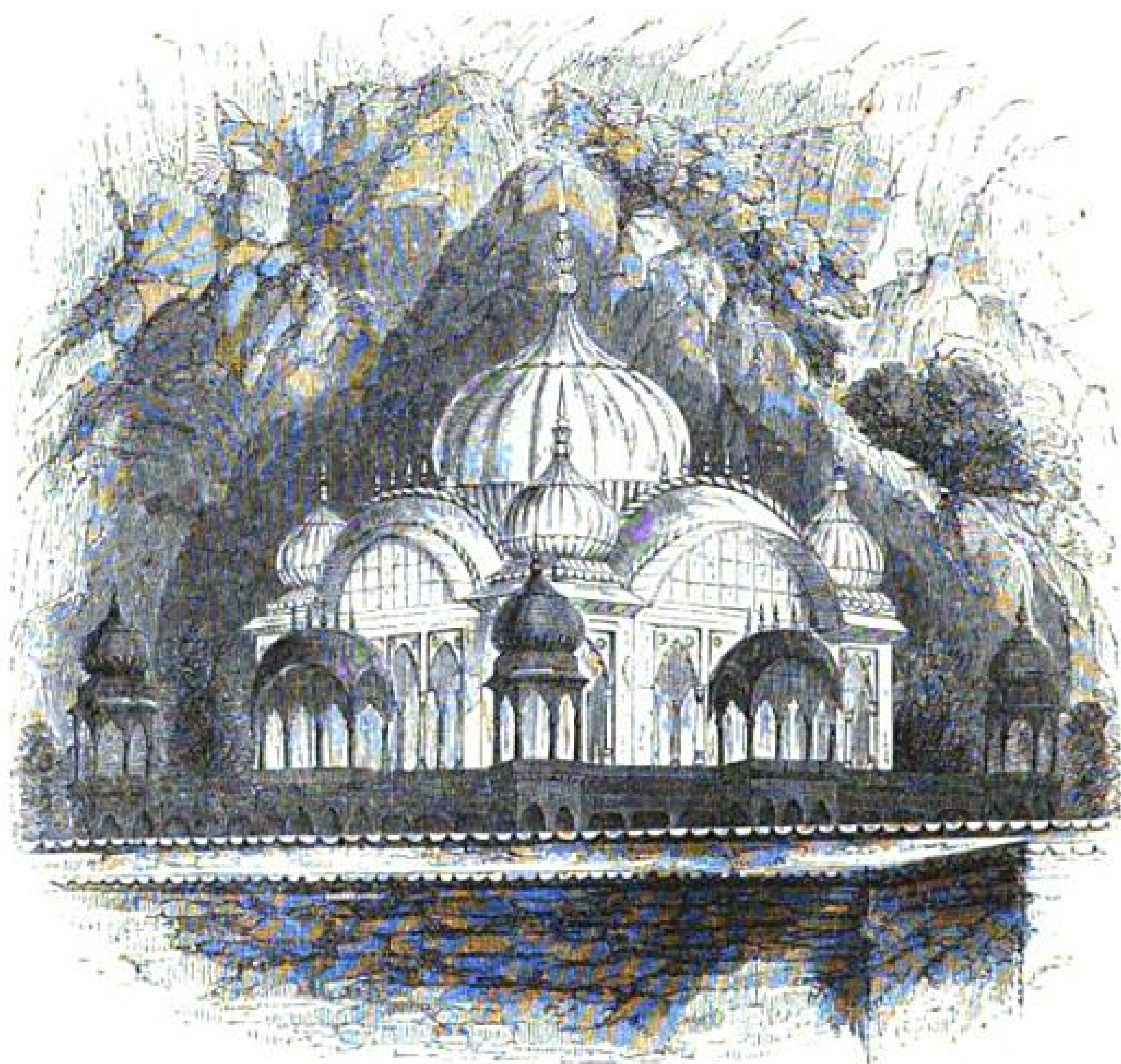
ever, was permanent in the general style, and among other things introduced some entirely new forms of edifices utterly unknown among the Hindus before this time. Amongst these the most remarkable are the cenotaphs to the dead, or *Chuttries* as they are called by the Hindus.

To a people who believe in the transmigration of souls, as the Buddhists always did, and the Hindus very generally do, it is of little importance what becomes of its corporeal encasement after the soul has taken up its new abode; in all ages, therefore, we find the followers of these religions either burning the bodies of the dead, or throwing them into the rivers, or merely exposing them to be devoured by beasts or birds of prey. The Mahometans on the contrary, or at least that section of them who invaded India, the Moguls and Tartars, were in all ages pre-eminently a tomb-building race, and by far the most magnificent edifices they have erected in India are the sepulchres of their kings. The Hindus also adopted this practice after the reign of Akbar, at first in their own peculiar fashion, erecting domes like those of the Jains, on 4 or 8 or 12 pillars, with porticos *ad libitum*, on the spot where the bodies were reduced to ashes. There was this difference between the Hindu and Mahometan practice, that the former were generally content to leave the erection of these monuments to the filial piety of their successors, a practice which has been found singularly inimical to architectural magnificence of this class in most countries, while the great tomb-building nations, such as the Egyptians and Moguls, took care to provide against this, by always erecting their own tombs during their lifetime. One of the most extensive and beautiful collections of these cenotaphs is that of Oudeypore, near the sacred fountains, where the Rajas of that race and their wives have been buried from time immemorial.[1] They are not confined however to that locality, but almost every little capital of Rajpootana can point to some monument of the same class, all modern of course, but some of them of great elegance.

Most of these retain their pure Hindu, or rather Jaina forms of columnar architecture. The most modern, however, and those nearest the influence of the great Mahometan capitals of Agra and Delhi, adopt almost exclusively the arcaded forms of that style of architecture, but, singularly enough, without introducing the true arch, every apparent arch, in fact, being composed of two stones or great brackets meeting one another from the opposite sides, and carved in the form of a foiled arch.

The annexed woodcut, taken from one erected to the memory of the late Raja of Alwar, will explain the general form and appearance of these monuments. The central part is of white marble streaked with black; the terrace and surrounding pavilions of red sandstone. Those of the Bhurtpore Rajas in this neighbourhood are more extensive and

[1] A view of one of these chuttries is given in my Illustrations of Indian Architecture, pl. xiv.



79. Chuttrie at Alwar. From a sketch by the Author.

more elegant than this, and are built wholly of the fine yellow sandstone of the district in which they stand. But this instance appears most characteristic of the modern form of art, and the Bhurtpore style is best exemplified in their palaces, of which more hereafter. We find in this example a new and remarkable form, which the Hindus introduced, and the Mahometans afterwards adopted, which is the curious curvilinear roof of the central compartment. This is peculiar to India, and is copied from the bamboo-roofed huts of the lower provinces, whose elasticity requires them to be bent, that they may have the requisite firmness. In them it is singularly graceful, but it requires long habit to accustom the eye to it in stone. In small examples it is extremely pleasing, but on a large scale it has a quaint appearance that it is almost impossible to get over.

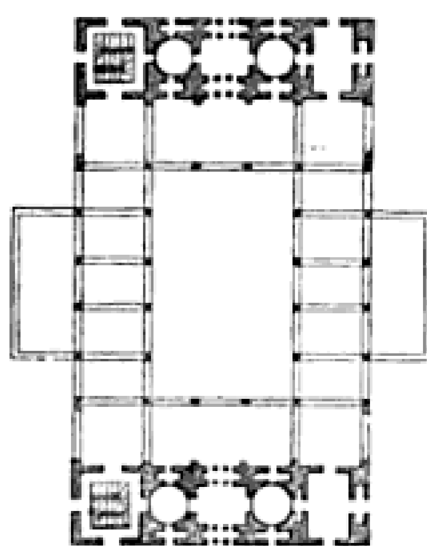
Palaces.

It is not so much in their temples or tombs as in their palaces that the modern Hindus have displayed their architectural magnificence. Every little capital possesses a regal residence of more or less pretension, and every hill-top, in some of the native states, is crowned with hunting-seats or summer-palaces. Some of these, such as those of Jeypore and Oudeypore, are of great extent and magnificence; but,

large or small, all are designed with that exquisite feeling for grace of outline which characterises the Hindus in all ages, and all are ornamented with that profusion of elaborate detail which extreme cheapness of labour enables them to bestow on their largest as on their smallest works. Among these, by far the most beautiful as an architectural object is the garden-palace of Deeg, erected by Sooraj Mull, the virtual founder of the Bhurtpore dynasty in the middle of the last century. It wants, it is true, the massive character of the fortified palaces of other Rajpoot states, but for grandeur of conception and beauty of detail it surpasses them all.

The whole palace was to have consisted of a rectangular enclosure, twice the length of its breadth, surrounded with buildings, with a garden in the centre. Only half of this has been completed, the square being 170 by 120 paces, crossed in the centre by ranges of the most beautiful fountains and parterres laid out in the formal style of the East, interspersed with architectural ornaments of the most elaborate finish.

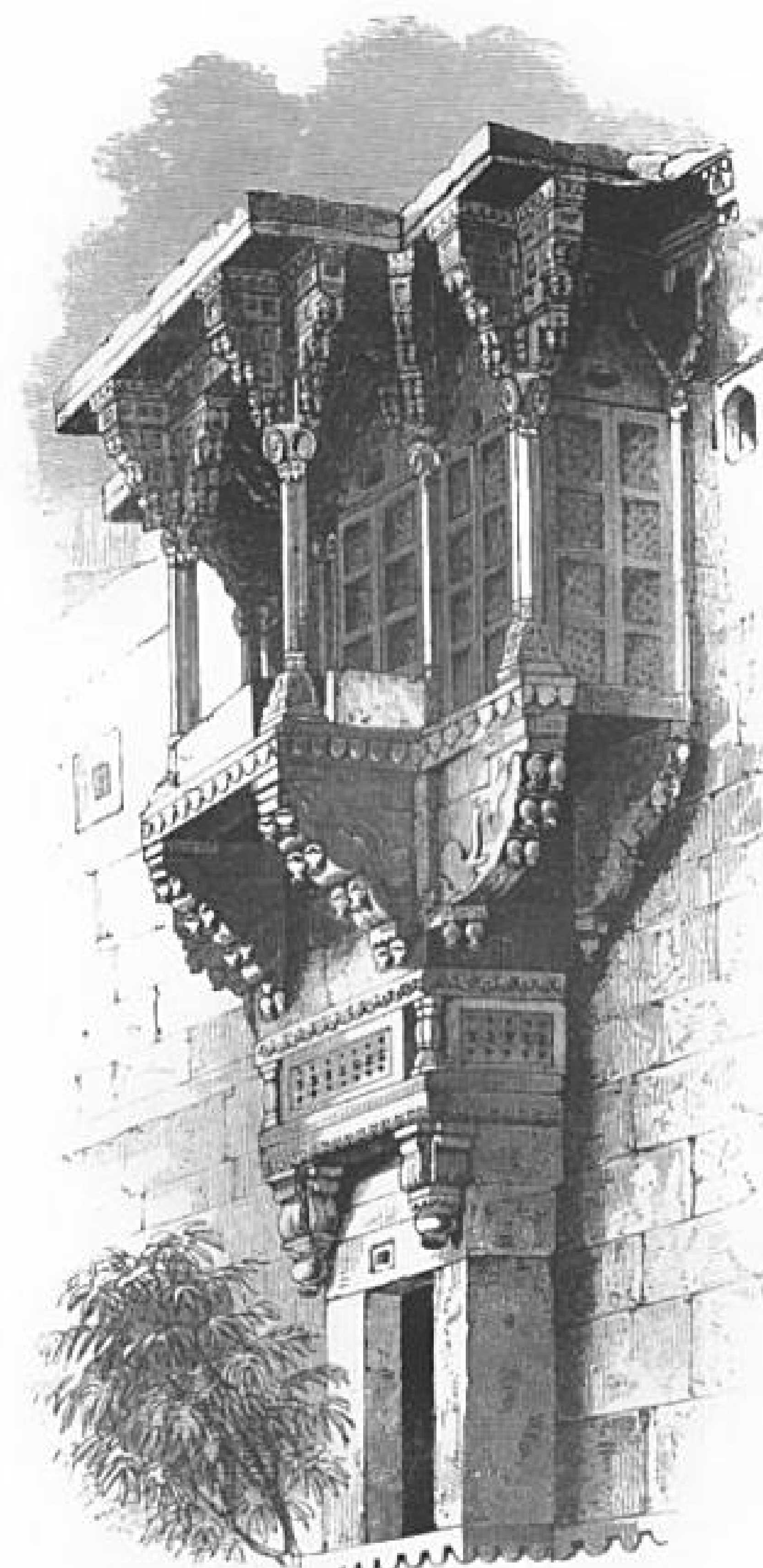
The pavilion on the north side contains the great audience-hall, 76 ft. 8 in. by 54 ft. 7 in., divided in the centre by a noble range of arcades, behind which are the principal dwelling apartments, two, and in some parts three, stories in height. Opposite this is a pavilion occupied principally by fountains. On one side stands a marble hall attached to an older palace facing the principal pavilion, which was meant to occupy the centre of the garden. As will be seen by the plan (woodcut No. 80) it is a parallelogram of 152 ft. by 87 ft., each end occupied by a small but very elegant range of apartments, in two stories; the central hall (108 ft. by 87 ft.) is supported by 4 rows of columns, and open at both sides; at each end is a marble reservoir for fountains, and a similar one exists externally on each side. The whole is roofed with stone, except the central part, which, after being contracted by a bold cove, is roofed with a flat ceiling of timber exquisitely carved. This wooden ceiling seems to have been considered a defect, nothing but stone being used in any other part of the palace. The architect therefore attempted to roof the corresponding pavilion of the unfinished court with slabs of stone 34 ft. in length, and 18 in. square. Some of these still exist in their places, but the weight was too great for the arcades, only 18 in. thick, and even that not of solid stone, but of two facings 4 or 5 in. thick, and the intermediate spaces filled in with rubble. Besides this, though the form of the arch is literally copied from the Mahometan style, neither here, nor elsewhere throughout the palace, is there a single true arch, the openings being virtually covered by two brackets meeting in the centre.



80. Hall at Deeg. From a plan by the Author.

The general appearance of the arcades of these buildings may be characterised as more elegant than rich. The glory of Deeg, however,

consists in the cornices, which here are generally double, a peculiarity not seen elsewhere, and for extent of shadow and richness of detail surpass any similar ornaments in India, either in ancient or modern buildings. The lower cornice is the usual sloping entablature, almost universal in such buildings. This was adopted apparently because it took the slope of the curtains, which almost invariably hang beneath its projecting shade, and which when drawn out seem almost a continuation of it. The upper cornice, which was horizontal, is peculiar to Deeg, and seems designed to furnish an extension of the flat roof, which in Eastern palaces is usually considered the best apartment of the house; but whether designed for this or any other purpose, it adds singularly to the richness of the effect, and by the double shadow affords a relief and character seldom exceeded even in the East.



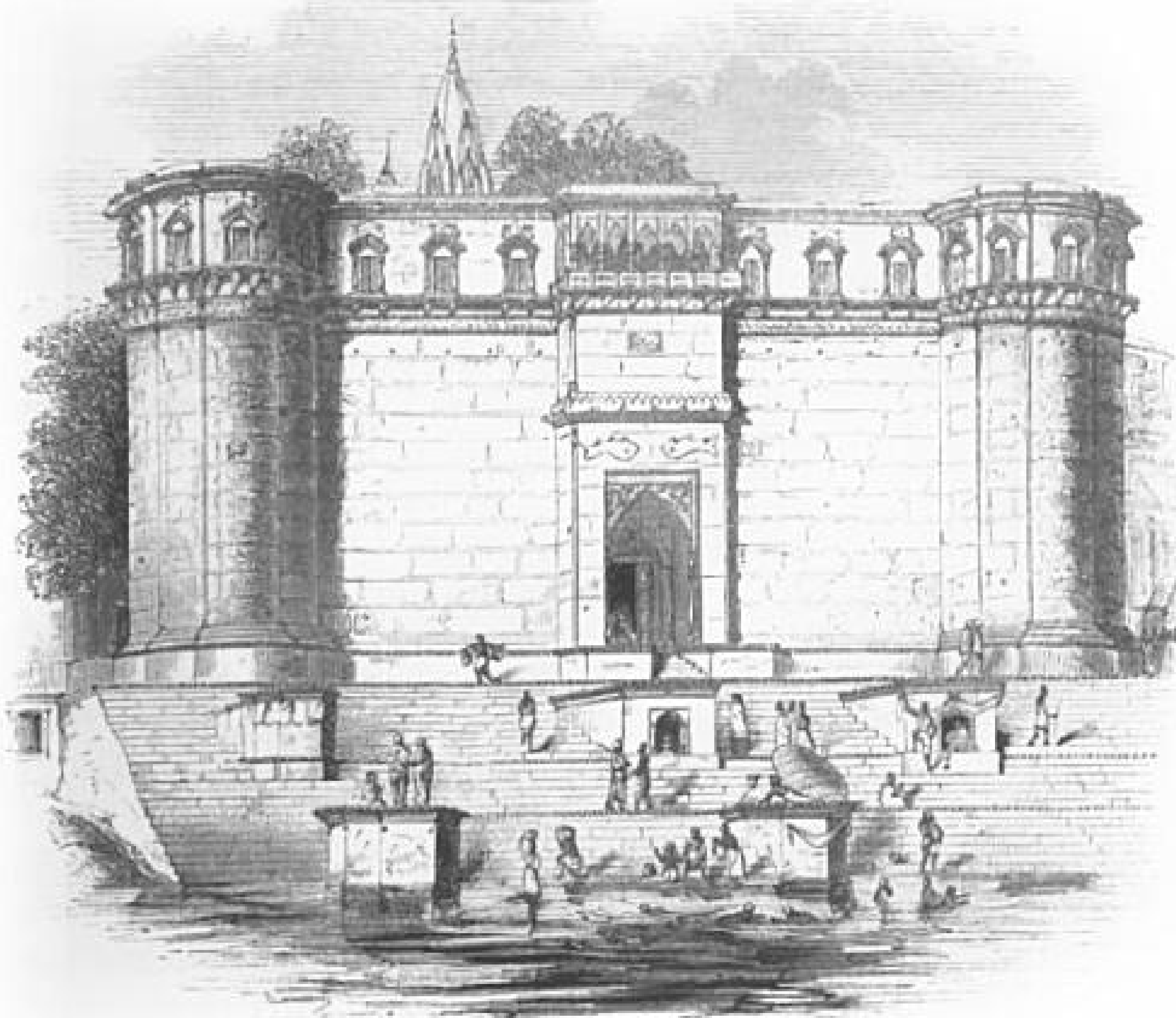
81. Balcony at the Observatory, Benares. From a drawing by the late James Prinsep.

Generally speaking, the arcades of Deeg are neither so rich nor so appropriate as the bold bracket capitals of their older styles. That the bracket is almost exclusively an original Indian form of capital can, I think, scarcely be doubted; but the system was carried much further by the Moguls, especially during the reign of Akbar, than it had ever been carried by its original inventors, at least in the North. The Hindus, on receiving it back, luxuriated in its picturesque richness with a boldness that astonishes every beholder; and half the effect of most of the modern buildings of India is owing to the bold projecting balconies and fanciful kiosks that diversify the otherwise plain walls. The accompanying example (woodcut No. 81), from the observatory erected by Jey Sing (A.D. 1698-1742) at Benares, is a rich and elegant specimen of the style, though hardly

so elegant as some of the Moslem examples which are found at Agra, Delhi, and in the neighbourhood of these two capitals. But whether used by Moslems or Hindus, these balconies have a very pleasing effect. They relieve the monotony of the plain face of a building, without interfering with its main lines, or requiring any great constructive skill for its introduction.

LANDING-PLACES OR GHÂTS.

Another object of architectural magnificence peculiar to northern Hindostan, is the construction of the *ghâts* that everywhere line the river-banks in most of the great cities, more especially those which are situated on the Ganges. Benares possesses perhaps the greatest number of edifices of this class; but from Calcutta to Hurdwar no city is without some specimens of this species of architectural display. The Ghoosla Ghât at Benares (woodcut No. 82), though one of the most



82. Ghoosla Ghât, Benares. From Prinsep's Views.

modern, may be taken as a fair specimen of the class, though many are richer and much more elaborately adorned. Their object being to afford easy access to bathers, the flight of steps in front is in reality the *ghât* and main building itself. These are generally broken, as in this instance, by small projections, often crowned by kiosks, which take off the monotony inherent in long lines of narrow steps. This flight of stairs is always backed by a building, which in most instances

is merely an object of architectural display, without any particular destination, except to afford shelter from the rays of the sun to such of the idle as choose to avail themselves of it. When the bank is high, the lower part of these buildings is solid, and when, as in this instance, it is nearly plain, affords a noble basement to an ornamental upper story with which they are generally adorned, or to the temple which frequently crowns them.

Though the Ganges is, *par excellence*, the river of ghâts, one of the most beautiful in India is that erected by Alaya Baiee (Holkar's widow) at Maheswar on the Nerbudda: and Ougein and other ancient cities almost rival Benares in this respect. Indeed, there is scarcely a tank or stream in all India that is without its flight of steps, and it is seldom indeed that these are left without some adornment or some attempt at architectural display, the proximity of water being always grateful in so hot a climate, and an especial place of favourite resort with a people so fond of washing and so cleanly in their habits as the Hindus.

Reservoirs.

The same fondness for water has given rise to another species of architectural display peculiar to India, in the great reservoirs or *bowlees*, which are found wherever the wells are deep and water far from the surface. In design they are exactly the reverse of the ghâts above described, as the steps are wholly below the ground, descending to the water often at a depth of 80 or 100 ft. Externally they of course make no display, the only object seen above ground being 2 pavilions which generally mark the entrance, between which a bold flight of steps, from 20 to 40 ft. in width, leads down to the water. Facing the entrance is a great screen, rising perpendicularly from the water to the surface of the ground, and dividing the stairs from a circular sinking or well, up which water is drawn by pulleys by those who prefer that mode of obtaining it to that of descending the steps to seek it. The walls between which the flight of steps descends are ornamented by niches, or covered with galleries leading to the great screen. Where the depth is great there is often a screen across the stairs about half way down.

To persons not familiar with the East such an architectural object as a *bowlee* may seem a strange perversion of ingenuity, but the grateful coolness of all subterranean apartments, especially when accompanied by water, and the quiet gloom of these recesses, fully compensate, in the eyes of the Hindu, for the more attractive magnificence of the *ghâts*. Consequently the descending flights of which we are now speaking have often been made more elaborate and expensive pieces of architecture than any of the buildings above ground found in their vicinity.[1]

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[1] For a view of one at Boondee see Picturesque Illustrations of Ancient Architecture in Hindostan, plate xvii.

DAMS.

In the same manner the bunds or dams of the artificial lakes, or great tanks, which are so necessary for irrigation, are often made works of great architectural magnificence, first by covering them with flights of steps, like those of the ghâts, and then erecting, in the breaks between these flights, temples or pavilions, and kiosks, interspersed with fountains and statues. Where all these are of marble, as is sometimes the case in Rajpootana,[1] the whole makes up as perfect a piece of architectural combination as any the Hindus can boast of.

It would be tedious, however, to enumerate, without illustrating them—which the limits of this work will not admit of—all the modes of architectural magnificence of the Hindus. Like all people untrammelled by rules and gifted with a feeling for the beautiful, they adorn whatever they require, and convert every object, however utilitarian in its purposes, into an object of beauty, knowing well that it is not temples and palaces alone that are capable of such display, but that everything which man makes may become beautiful, provided the hand of taste be guided by sound judgment that never forgets what the object is, and never conceals the constructive exigencies of the building itself. It is simply this inherent taste and love of beauty, which the Indians seem always to have possessed, directed by unaffected honesty of purpose, which enables those who are now without independence, or knowledge, or power, to erect, even at the present day, buildings that will bear comparison with the best of those erected in Europe during the middle ages. It must be confessed that it would require far more comprehensive illustration than the preceding slight sketch of so extensive a subject can pretend to, to make this as apparent to others as it is to any one who has personally visited the objects of interest with which India abounds.

[1] Two specimens of Bunds of this sort are given in the Picturesque Illustrations of Indian Architecture, plates xii. and xiii.

CHAPTER III.

CASHMEER.

CONTENTS.

Style of Architecture — Temples at Martund — Pandrethan — Payech, &c.

CHRONOLOGY.

	DATES.		DATES.
Asoka establishes Buddhism: inscription at Kapur di Giri	B.C. 250	Salitaditya builds enclosure at Martund	A.D. 752
Mihiricula invades Ceylon	105	Jayapira marries daughter of Jayanta of Gaur	814
Megahavahana invites Bauddhas, and invades Ceylon	A.D. 434	Avanti Verma builds Temple at Avantipore	890
Hiranya contemporary Baharam Gaur Vicranaditya, &c.	440	Partha, his minister, built Temple at Pandrethan about	1000
Ranaditya married daughter of Chola Raja; builds Martund about	600	Xemagupta destroyed Viharas of Buddhists	1030
Pratapatitya founds Bratapapar about	650	Alla Uddeen: Moslem conquest of Cashmeer	1300

The last division of Indian architecture which remains to be examined is that of Cashmeer, which, though scarcely of much importance in itself, still possesses some peculiarities well worthy of attention, and consequently some account of it is necessary in a work professing to treat of all styles.

Our knowledge both of the inhabitants and of the architecture of Cashmeer is very limited. The people seem to be quite distinct from the Hindus on one side and from the Persians on the other. There is reason to believe that they are nearly connected by race with the inhabitants of the Punjab, and traces of their architecture are found throughout that important district.[1]

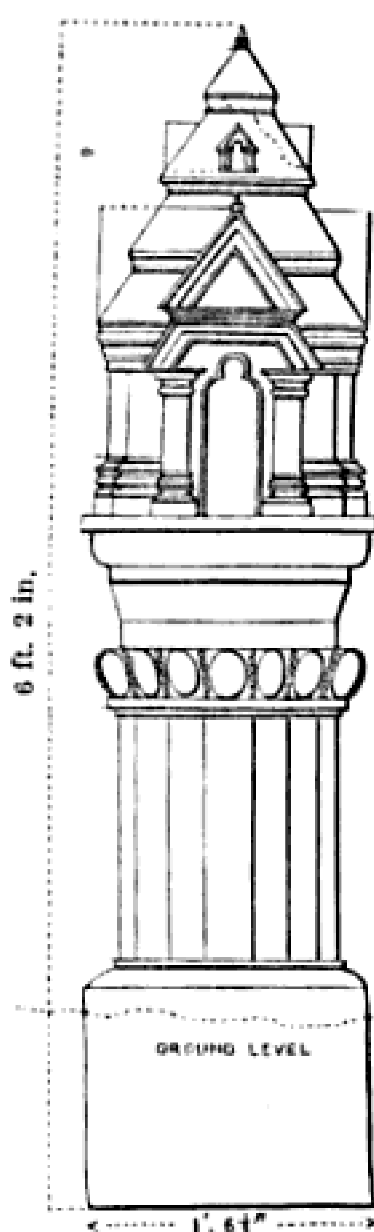
The authentic history of Cashmeer, as of almost every other country of India, begins with Asoka, though its annals stretch back, with something like authenticity, to a Gonerda, who was contemporary with the Mahabarat or great war in the twelfth or thirteenth century B.C. Their principal historical volume, however, the Raja Tarangini, first

[1] Our information with regard to the architecture of Cashmeer is derived principally from (1) the engravings in Vigne's Travels in Cashmeer, and which, unfortunately, are very inferior to his original drawings, which are beautiful and accurate; (2) a memoir by Major A. Cunningham, of the Bengal Engineers, published in the Journal of the Asiatic Society of Bengal, Sept. 1848. The drawings accompanying this memoir are by far our principal guide on this subject. (3) A paper by Capt. Abbot, in a subsequent number of the same journal. He gives drawings of examples which he found in the Punjab, which are our principal authority for the belief that the style of Cashmeer and that of the Punjab are identical.

begins to detail events when it speaks of the introduction of Buddhism into the valley by Asoka. This has been remarkably confirmed by the discovery of a copy of his edicts at Kapur di Giri in Peshawur, showing that his power extended even beyond the Indus in this direction. To what extent the new doctrine was embraced by the inhabitants of the valley we do not know, nor how long it remained the state religion; nor need we stop here to inquire, for not one vestige of their monuments has yet been brought to light. They can scarcely have erected topes of any importance, or something of them would remain;[1] but then they may have possessed no relics, and, if Buddha did not visit their valley, no sacred spot to commemorate, while it is more than probable that their halls and temples were constructed of Deodar pine, which still is the principal material used in the erection of mosques and public buildings throughout Cashmeer, and these of course have perished. There are no remains now existing in the country which can with any certainty be ascribed to an earlier date than the middle of the eighth century.

The annexed woodcut (No. 83) will explain most of the peculiarities of the style. It is taken from Major Cunningham's memoir, and represents a small model of a Cashmeer temple placed on a pillar, an object common in Bengal, as well as in this country.

The temple in this instance is surmounted by four roofs, though in all the built examples known there are only two, and it is obvious that they are copied from the usual wooden roofs common to most buildings in Cashmeer, where the upper pyramid covers the central part of the building, the lower a verandah, separated from the centre either by walls or merely by a range of pillars.[2] In the wooden examples the interval between the two roofs seems to have been left open for light and air; in the stone buildings it is closed with ornaments. Besides this, however, all these roofs are relieved by dormer windows, of a pattern very similar to those found in mediæval buildings in Europe, and the same steep, sloping lines are used also to cover doorways and porches, being virtually a section of the main roof itself, and evidently a copy of the same wooden construction.



83. Model of Temple in Cashmeer.

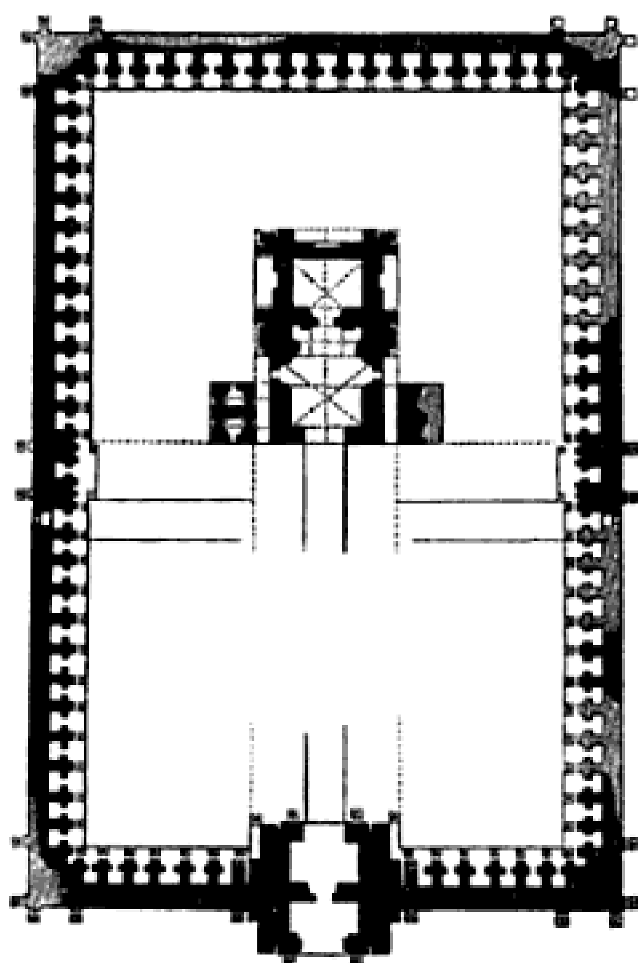
The pillars which support the portico and the one on which the model stands are by far the most striking peculiarity of this style, their shafts being almost identical with those of the Grecian

[1] When Huiang Sung visited Cashmeer about 630 A.D. Buddhism was still flourishing in the valley. He mentions four Topes, but not apparently of great importance.

[2] See drawing of mosque by Vigne, vol. i. p. 269; and also J. A. S. B., 1848, p. 253, containing Major A. Cunningham's paper on the subject, from which this and the three following woodcuts are taken.

Doric, and wholly unlike anything found in any other part of India. Generally they are from 3 to 4 diameters in height, diminishing slightly towards the capital, and adorned with 16 flutes, rather shallower than those of the Grecian order. Both these bases and capitals are, it is true, far more complicated than would have been tolerated in Greece, but at Pæstum and in Rome we find with the Doric order a complexity of mouldings by no means unlike that found here. At all events we find in Cashmeer no trace of the bracket capital of the Hindus, nor of the changes from square to octagon, or to the polygon of 16 sides, and so on. Indeed, whether the affinity to the Greek be or be not conceded, it is quite certain that no trace of such an order is found in India proper. May it not be regarded as a remnant of the Greek kingdom of Bactria, altered, it is true, in the lapse of centuries, but still retaining unmistakeable marks of its origin?

There is still one other peculiarity of this style which it is by no means easy to account for. This is the trefoiled arch, which is everywhere prevalent, but which in our present state of knowledge cannot be accounted for by any constructive necessity, nor traced to any foreign style from which it could have been copied. My own impression is that it is derived from the façades of the Chaitya halls of the Buddhists. Referring, for instance, to woodcut No. 19, it will be perceived that the outline of the section of that cave at Ajunta is just such a trefoil as is everywhere prevalent in Cashmeer, and, as both there and everywhere else in India, architectural decoration is made up of small models of large buildings applied as decorative features wherever required, it is by no means improbable that the trefoiled façade may have been adopted in Cashmeer as currently as the simple horse-shoe form was throughout the Buddhist buildings of India Proper. All these features however mark a local style differing from anything else in India, pointing certainly to another race and another religion, which we are not now able to trace to its source.



84. Temple of Martund. From a drawing by Major A. Cunningham.

The architectural history of Cashmeer commences with the Gonerdya line, who were restored to power about the middle of the 5th century; one of these, Ranaditya, built or commenced the temple at Martund, which was completed by Lalitaditya, a king of another dynasty, who in the middle of the 8th century avowedly added the enclosure. We have no means of knowing whether the ruin which now remains includes any part of the older erection. It is the finest building in the

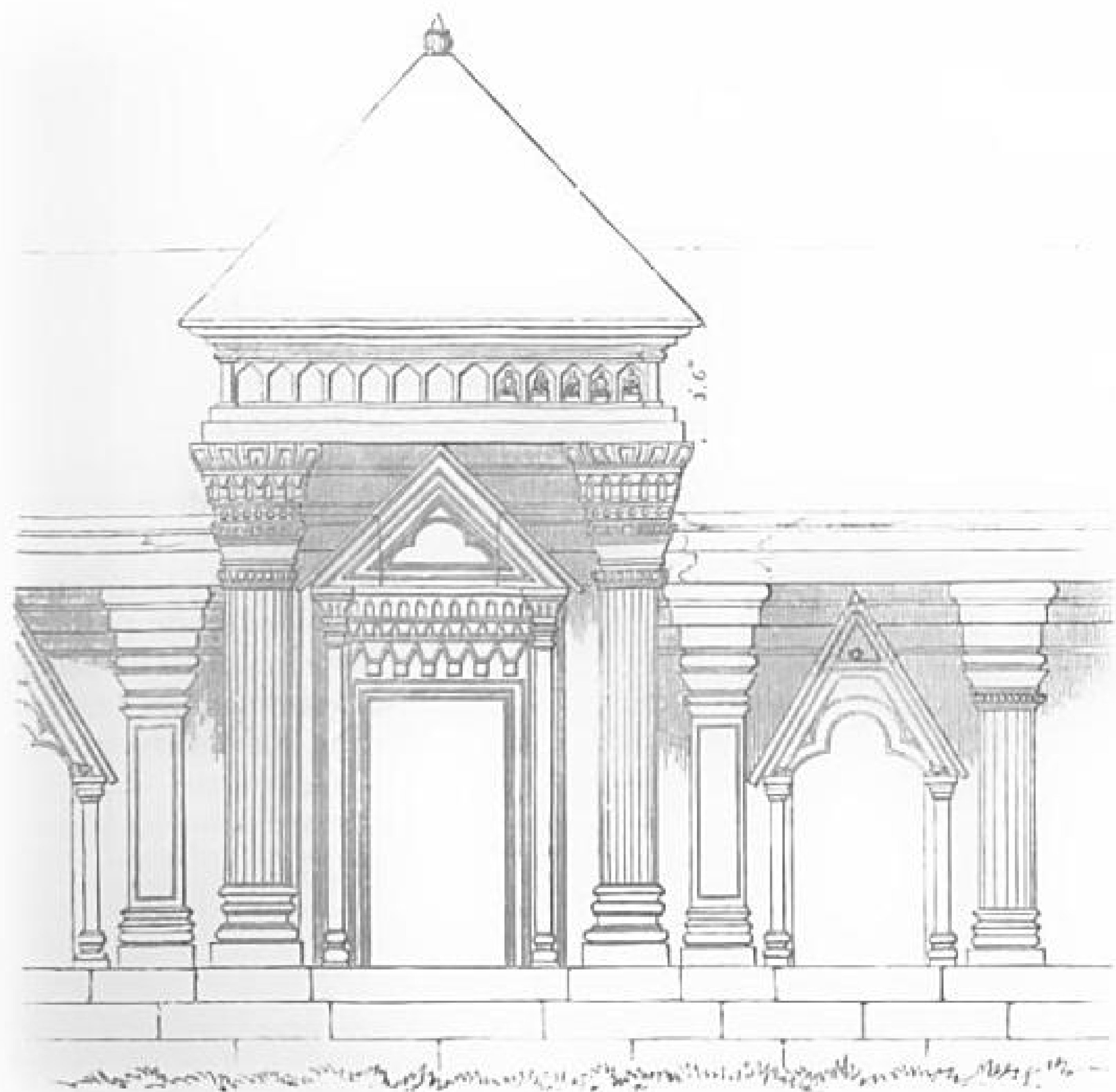
valley, and is at least as old as the last-named date, and possibly, in part at least, three centuries earlier.

As will be seen by the annexed plan, it is of the usual form of Hindu temples; a *vimana* with its cell, an *antarala* or pronaos, and *mantapa* or porch. It has two wings, which are peculiar, but seem to have been joined to the main façade, so as to give it breadth, and possibly also height; for they are solid in their construction, and both now incline outwards, as if their superincumbent mass had been too heavy for their foundations.

No trace of the roof remains, which led the Baron Hugel to conjecture that it never had one. This Major Cunningham disputes; and the most probable supposition seems to be that it was of wood, and has perished, or, like some of those in the south, it may have been constructed of badly burnt bricks, which have decayed. The lower part which exists is similar in all respects to the other temples of the same class found around it.

The enclosure that surrounds the temple is very remarkable. Though in ruins, we can make out its original design.

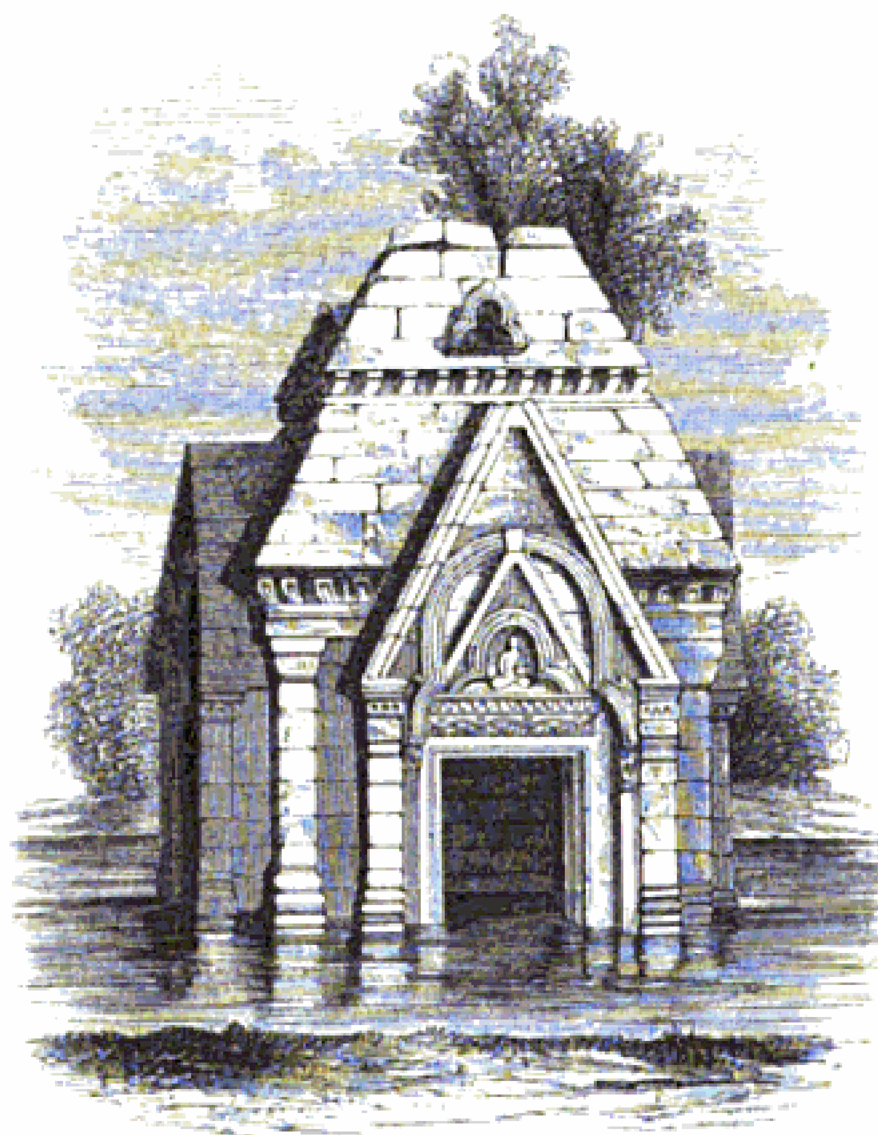
The internal dimensions of the court were 220 ft. by 142; the number of pillars 84—a sacred number with the Hindus. Between each



85. Central Cell of Court at Martund. From a drawing by Major A. Cunningham. No scale.

pair was a cell, more like those of the Jaina temples than anything purely Hindu; indeed, if we may trust such drawings as we have, the friezes are ornamented with cross-legged figures, which could only have belonged to that sect; but I fear the drawings are hardly to be trusted.

In front of the temple was the great gateway, of which only the foundation remains; but in the centre of each side of the court was a cell more important than the rest, probably resembling the great gateway. One of these with the niche on its side is shown in the annexed woodcut (85), and shows most of the peculiarities of the style—the straight pyramidal roof, the Doric-like shafts, here loaded with enormous capitals, but still with ornaments familiar to the student of Greek art; the straight-lined pedimented doorway; and more especially the trefoiled arch, which is so constant a characteristic:—all features unlike anything else in India, and pointing to a foreign style mixed up with local constructive peculiarities.[1]



86. Temple at Pandrethan. From a drawing by Major A. Cunningham.

There are, besides this temple, at least 10 or 12 others in the valley, all erected before its conquest by Alla-u-deen (A.D. 1300), some of which are nearly as extensive, but none either so old or so perfect, nor are their histories even so well known as the history of this; and as they do not illustrate any new points, it would be tedious to enumerate them here. One only seems to have remained quite perfect, and to retain all its peculiarities—that of Payech. A still older temple, and one which more perfectly illustrates the peculiarities of the style, is that of Pandrethan, erected in the 10th century, and

[1] It is not a little singular, however, that the only temple I know of in India that resembles this one either in plan or arrangement is the smaller temple of Conjeveram in the Chola country near Madras; and it is curious that both the Raja Taringani, the Cashmeer history, and that of the Chola country mention that Ranaditya married a daughter of the Chola king, and assisted in forming an aqueduct from the Cauvery—showing at least an intimacy which may have arisen from that affinity of race and religion, which, overleaping the intruded Arians, united the two extremities of India in one common bond. The style of the two temples is, it is true, different; but when I saw the one I did not know of the existence of the other, and did not, as I now would do, examine the details with that care which alone would enable any one to pronounce definitely regarding their affinities.

which, though ruined, still preserves the characteristics of the Cashmeerian style with singular distinctness.

Captain Abbot's examples from Mullote in Potowar between the Indus and the Jelum are only interesting as showing the same style existing on the plains, instead of being confined wholly to the secluded valley of Cashmeer. No doubt many other examples will soon be brought to light, now that the country is in our hands, and some probably which may enable us to trace nearer to its origin a style of so much interest.

The architecture of Cashmeer was quite unknown till about the year 1830. Notwithstanding this it has attracted a great deal of attention. Its close resemblance in many points to the Grecian style, its striking difference from the buildings of all neighbouring nations, fully account for this. We must remember that the inhabitants of this remote valley were an Indian people protected by their situation from the violent changes to which the inhabitants of the plains were exposed. We are therefore prepared to expect that the history of this district will illustrate that of the great Indian people in many important respects; and such we find to be the case.

The Raja Tarangini has been pronounced by the best authorities to be the best, if not the only, true history of an Indian race that has reached our time. But, if I mistake not, the architecture of this land may even now throw more light on the subject than even that famed chronicle of her earlier kings.

RECAPITULATION.

Having now gone through all the different phases which Indian architecture has assumed from the earliest period at which we become acquainted with it till the present time, it only remains, in conclusion, to recapitulate, in a few words, the more salient points to which attention has been directed.

It has been shown that the history of Indian architecture commences not earlier than the middle of the third century before Christ, when Asoka made Buddhism the state religion of India, and sought to commemorate the fact, not only by inscriptions, but by monumental columns and other lasting memorials, some of which remain to our day. It then begins with a strong admixture of Grecian, or at least of Western art, as if the Indians were then first learning from foreigners an art they had not previously practised; but this extraneous element soon died out, and is not again to be traced, except perhaps in Cashmeer, where it seems to have long remained in force.

From the time of Asoka till nearly that of the Mahometan conquest there exists no difficulty in tracing the whole history of Buddhist art—a complete series of examples existing in the caves and topes; which, taken in connexion with those of Afghanistan and Ceylon, and other buildings, amply suffice to elucidate the subject. From that time to the present day we find abundance of examples in Burmah, Thibet, and Nepal, which, with collateral illustrations from Java and elsewhere,

enable us to trace the history of the Buddhist style through more than 2000 years. There is every reason to believe that from the buildings themselves, and from the paintings and sculptures with which they are adorned, the whole history of this important sect may be restored with the utmost distinctness and certainty.

In India this style was succeeded by that of the Jains, though this latter seems scarcely to have arisen out of the former, but to be the lineal descendant of some older style whose traces have not yet been detected farther back than the 9th or 10th century, though some may probably still exist between India and the western parts of Asia. If the Jaina buildings want the manly vigour and boldness of the Buddhist style, they far surpass it in the elegance both of their combinations and of their details. In these respects the Jaina style surpasses any other style in India, and has had in consequence more influence on the Mahometan art, and, through it, on the modern Hindu, than any other—circumstances which would render its study singularly interesting, had we the means available for its prosecution. At present, however, they do not exist; and from the circumstance of none of the great kingdoms of India having ever adopted the Jaina as a state religion, its traces are only discovered in the more remote corners of the country, where they have hitherto generally escaped the notice of travellers.[1]

The principal Hindu style arose in the south among the aboriginal Tamul races, and extends north as far as Ellora. We do not know at what age it first was practised, no example having yet been traced to so early a date even as the 4th or 5th centuries after Christ. When it first appears, it seems to have adopted Buddhist forms, or at all events to have arisen out of the same forms from which the Buddhists elaborated their style. Hindu architecture continues almost unchanged to the present day, except that the Mahometan influence is sometimes strong in civil buildings; and cases occur in which a strange mania for copying debased European art has crept even into the sanctums of their temples. This, however, is a rare occurrence; and generally speaking it is only in the inferiority of workmanship and design that we trace the influence of age in this class of art.

In the north another style of art arose, and different forms were adopted, though from what original it is difficult to guess: the earliest example is in the 7th century, and then the style was perfectly matured. It must be pursued much further back before we can hope to detect, in ill-concealed traces of structural exigencies, those forms which were afterwards elaborated into the orders we now find.

During 10 or 11 centuries, through which we can trace its history, the changes it underwent were slight, until after the reign of Akbar, when the introduction of Saracenic forms gave it a freedom and grace it had not known before; and though its details became less pure, its

[1] I cannot help suspecting that it will be discovered eventually that Cashmeer and the Punjaub were Jaina at the time of the Mahometan conquest, and that consequently the Cashmeerian style should virtually be classed under this head.

forms were improved by the addition. It is now sinking under our influence, till it is little better than a caricature of its former self.

In Cashmeer there still exists another style, differing from all these, showing, in the first place, a people secluded from the rest, perhaps retaining its earliest forms unchanged, or at all events owning different influences and practising a different art from any of the people around. When properly investigated, it may throw new and unexpected light on this hitherto obscure subject. Much, however, very much, still remains to be done, before the subject of Indian art can either be understood or be placed on a satisfactory footing of scientific induction. No works have yet been published exclusively devoted to the subject, except, I am sorry to say, my own; and mine is imperfect not only from the impossibility of one situated as I was effecting more without aid, but also from the great difficulty of publishing such works in this country, where the subject interests so few. Were the above sketch doubled or trebled in length, and the illustrations increased tenfold—for which materials exist—Indian architecture might rank with the known styles of the rest of the world. As it is, it is almost impossible to find any one either capable of giving an opinion on this class of art, or even of explaining the ground on which an opinion of its merits or defects should rest. It stands so completely alone, so entirely separate from the other forms of architecture of the world, that it cannot well be compared with any of them, without the risk of false and erroneous impressions being conveyed, more likely to mislead than to instruct. It does not, however, possess either the solid grandeur and simple magnificence of the Egyptian style, or any of that sublime aspiration after eternity that strikes with awe every visitor to the valley of the Nile.

It would be as reasonable to compare the Indian epics and dramas with those of Homer and Sophocles as to compare the Indian style of architecture with the refined elegance and intellectual superiority of the Parthenon and other great works of Greece. Probably a nearer comparison might be instituted with the Gothic styles of the middle ages; yet, while possessing the same rich irregularity and defiance of all rule, it wants that bold manliness of style and loftiness of aspiration which dignifies even the rudest attempts of those enthusiastic religionists. Though deficient in these respects, the Indian styles are unrivalled for patient elaboration of the details, which are always designed with elegance, and always executed with care. The very extent of ornamentation produces feelings of astonishment, and the smaller examples are always pleasing from the elegance of the parts and the appropriateness of the whole. In no styles is the last characteristic more marked than in those of India; for whether the architects had to uphold a mountain of rock or the airiest dome, or merely an ornamental screen work, in all instances the pillars are exactly proportioned to the work they have to do, and the ornaments are equally suited to the apparent strength or lightness of effect which the position of the mass seems to require. No affectation, and no imitation of other styles, ever interfere to prevent the purpose-like expression

of every part, and the effect consequently is always satisfactory and pleasing, and, when the extent is sufficient, produces many of the best and highest modes of expression of which the art of architecture is anywhere capable.

It may be that persons who have not had an opportunity of studying the buildings on the spot may not be inclined to form so favourable an estimate of the Indian styles as that here expressed; and, indeed, without actual inspection, no sufficient means exist for forming a correct judgment on the subject at all. But whether the architecture be really good or only passable, it is interesting as the art of a large portion of the human family. It affords the only means of judging correctly of the state of civilization and power of a people whose history is lost, or is so obscure as to be almost illegible. It should also interest the student, as showing how numerous and various the forms are which may be used for architectural purposes, and each as appropriate as any of those he is already familiar with: for, though men do not now believe, as they did a few years ago, that there are only five different forms of a pillar admissible, they do not yet know how numerous are the ways in which pillars may be employed. The adaptation of every part to the thousand different purposes to which it may be applied necessarily causes an infinite variety. This in fact is the great secret of architectural propriety, but which the Indian and Gothic architects seem alone fully to have appreciated.

To these points we shall have frequent occasion to return hereafter. In the mean while we must pass on to other styles, created to suit the exigencies of other climates, and to express the feelings of other races of mankind.

BOOK III.

CHAPTER I.

CHINA.

CONTENTS.

THE Chinese differ from all European nations, not only in the objects they propose to attain by their arts, and in the forms in which they seek to embody their conceptions, but also in the processes by which they carry them out. Hence, to write generally on their arts and sciences, in a manner to be intelligible, would require us to go into great detail, and to employ illustration to a very great extent. But the particular art with which our subject is concerned requires, and indeed admits, but very little to be said of it. The simple fact is, that China possesses scarcely anything worthy of the name of architecture. This is of importance as enabling us to understand how, in other countries, as in ancient India, a high degree of civilization may have been attained without producing any coeval monuments of durable character.

A priori, it certainly may seem strange that the Chinese should not have excelled in this art, for they are and always were most extensive builders, as may be seen by the massive walls that surround all their cities, and the great one that half surrounds their country. Their land is full of bridges and embankments, and engineering works of all sorts, showing a power of cutting stone and granite, and a science of building, hardly surpassed by even the Egyptians themselves. All these great works are wholly devoid of either architectural design or ornament. In India such works would have been rendered ten times more admirable for their art than for their mass or extent. Here, however they may subserve to their utilitarian purpose—this aim gained, no æsthetic beauty is either sought for or attained.

This certainly does not arise from inability, for no people on earth carve granite with such facility and precision as the Chinese, not even excepting the inhabitants of southern India; and nowhere is skilled labour so cheap, and time so little thought of, as in China. Hence the absence of art must arise from want of taste, not want of power. The

truth seems to be, that they are a people naturally excelling in constructive talent, and in all technic arts, but wholly devoid of either æsthetic feeling or desire to share in that higher class of human utterance.

This national idiosyncracy is no doubt the real fundamental cause of this absence of architectural remains. Other causes may be assigned which contributed to the same result. In the first place, the Chinese never had either a dominant priesthood or a hereditary nobility. The absence of the former class is a very important consideration, because, in all countries where architecture has been carried to anything like perfection, it is to sacred art that it owes its highest inspiration, and sacred art is never so strongly developed as under the influence of a powerful and splendid hierarchy. Again, religious and sectarian zeal is often a strong stimulus to sacred architecture, and this is entirely wanting in this remarkable people. Though the Chinese are bigoted to a greater extent than we can well conceive in all political matters, they are more tolerant than any other nation we know of in all matters concerning religion. At the present moment three great religious sects divide the empire nearly equally between them. For though Buddhism is the religion of the reigning family, and perhaps numbers more followers than either of the other two, still the followers of the doctrines of Confucius, the contemporary and rival of Sakya Sinha, are a more purely Chinese sect than the other, and hold an equal place in public estimation; while, at the present time, the sect of Laou Tse, or the Doctors of Reason, is more fashionable, and certainly more progressive, than the others. Christianity, too, might at one time have encroached largely on either of these, and been a very prevalent religion in this tolerant empire, had the Jesuits and Dominicans understood that the condition of religious tolerance here is a total abstinence from interference in political matters. This, however, the Roman Catholic priesthood never could be brought to understand; hence their expulsion from the realm, and the proscription of their faith, which otherwise would not only have been tolerated like all others, but have bid fair to find more extensive favour than any. This toleration is highly laudable in one point of view; but the want of fervour and energy from which it arises is fatal to any great exertions for the honour of religion.

In the same manner the want of an hereditary nobility, and indeed of any strong family pride, is equally unfavourable to domestic architecture of a durable description. At a man's death his property is generally divided equally among his children. Consequently the wealthiest men do not build palaces calculated to last longer than for their own lives. The royal palaces are merely somewhat larger and more splendid than those of the mandarins, but the same in character and erected for the same purposes.

There is no country where property is so secure as it is in China. Private feuds and private wars are unknown; foreign invasion has been practically impossible and little dreaded. Hence they have none of

those fortalices, or fortified mansions, which by their mass and solidity give such a marked character to a certain class of domestic edifices in our own country. Equality, peace, and toleration, are blessings whose value it would be difficult to over-estimate; but on the dead though pleasing level where they exist, it is in vain we look for the rugged sublimity of the mountain, or the terrific grandeur of the storm. The Chinese have chosen the humbler path of life, and with singular success. Considering their number, there is not perhaps a more industrious or happier people on the face of the globe; but they are at the same time singularly deficient in every element of greatness, either political or artistic.

Notwithstanding all this, it certainly is curious to find the oldest civilized people now existing on the face of the globe wholly without any monuments to record the past, or any desire to convey to posterity a worthy idea of their present greatness. It is no less remarkable to find the most populous of nations, and a nation in which millions are always seeking employment, never thinking of any of those higher modes of expression which would serve as a means of multiplying occupation, and of elevating while it is feeding the masses; and still more startling to find wealth, such as the Chinese possess, never invested in self-glorification, by individuals erecting for themselves monuments which shall astonish their contemporaries, and hand down their names to posterity.

It has been said that Chinese architecture is a very barren subject. In one respect, however, it is instructive, as the Chinese are the only people who now employ polychromy as an essential part of their architecture; so much so, that colour is with them far more essential than form; and certainly the result is so singularly pleasing and satisfactory, that for the lower grades of art it can hardly be doubted but that it should always be so. It is almost as certain that, for the higher grades of art, colour, though most valuable as an accessory, is incapable of the same lofty power of expression which form conveys to the human mind.

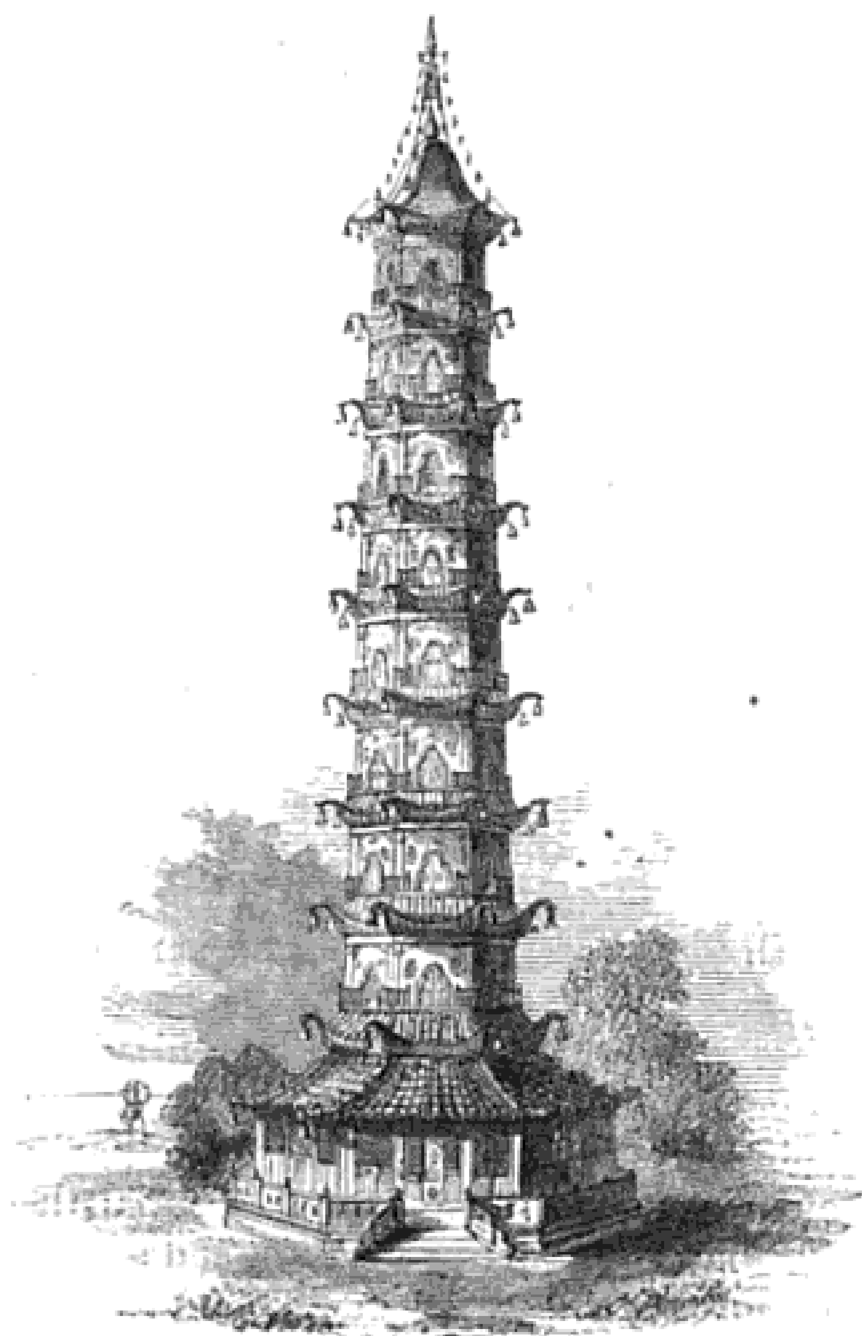
Pagodas.

The only buildings in China that really deserve to be classed as architectural objects are the 9-storied pagodas, or *Taas* as they are more properly called, which form such conspicuous and characteristic objects in every view of Chinese scenery. It has been before stated[1] that these *taas* are in fact only exaggerated *tees* or spires; and, without going further, the illustrations of this work alone are nearly sufficient to trace them back to their origin. In woodcut No. 14, for instance, we have a 3-storied tee, not very dissimilar from a Chinese example. Woodcut No. 15 shows one with 7 such rims, and the 9-storied tower at Chittore (woodcut No. 56) brings us so near the Chinese pagodas that further proof seems almost superfluous.

Of those now known to exist in China, by far the finest, as well as

[1] See p. 21.

the best known, is the celebrated porcelain tower at Nankin. Commenced in the year 1412, and finished in 1431, it was erected as a monument of gratitude to an empress of the Ming family, and is now in consequence generally called the Temple of Gratitude. It is octagonal in form, 236 ft. in height, of which, however, about 30 ft. must be deducted for the iron spire which surmounts it, leaving little more than 200 ft for the elevation of the building, or about the height of the Monument of London. From the summit of the spire 8 chains depend, to each of which are attached 9 bells, and a bell is also attached to each angle of the lower roofs, making 144 bells in all, which, when tinkling in harmony to the evening breeze, must produce an effect as singular as pleasing. It is not, however, either to its dimensions or its bells that the tower owes its celebrity, but to the coating of porcelain which covers its brick walls, as well as the upper and under sides of the projecting roofs, which mark the division of each story. This produces a brilliancy of effect which is totally lost in all the representations of it yet published, but which is in fact the class of ornament on which the architect almost wholly relied for producing the effect he desired, and without which it is a mere skeleton of a design.



87. Porcelain Tower, Nankin.

Another celebrated pagoda is that known as 'Second Bar Pagoda,' on the Canton river. It is a pillar of victory, erected to commemorate a naval victory which the Chinese claim to have gained near the spot. It is in design nearly identical with that last described, but of smaller dimensions, and now fast falling to ruin. Besides these, almost every town of importance in China possesses one or more such structures, differing in dimensions and in the greater or less richness of their ornaments, but so like one another in design that it is impossible from such drawings as have been published to make out anything like a sequence or even a difference; they must therefore, with

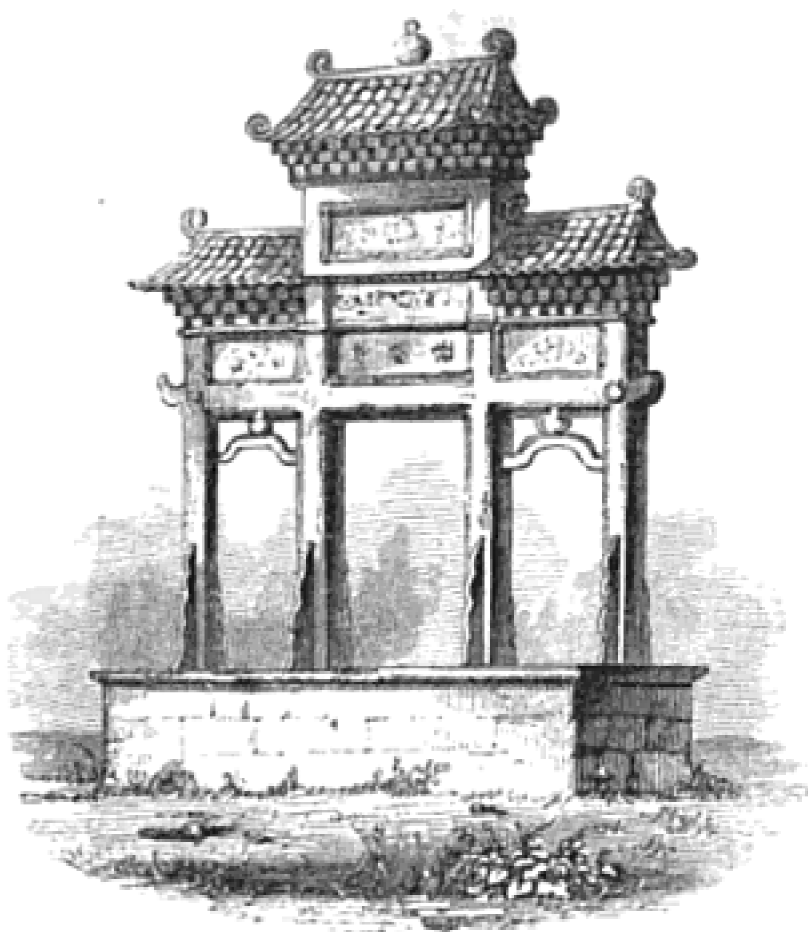
our present knowledge, be regarded as exactly similar to one another.

Besides these great towers, however, there are many of only 3 or 7 stories, and of very small dimensions, but, whatever their height or size, the same design runs through them all.

It is extremely difficult to form a correct estimate of the artistic merits of these towers. Anything so original and so national must be interesting from that circumstance alone, and it seems almost impossible to build anything in a tower-like form of great height, whether as a steeple, a minar, or a pagoda, which shall not form a pleasing object even from its salience and aspiring character alone, without any real artistic merit in itself. Besides these qualifications, I cannot but think that the tapering octagonal form, the boldly-marked divisions, the domical roof, and general consistence in design and ornament, of these towers, entitle them to rank tolerably high among the tower-like buildings of the world.

PAILOOS.

The *Pailoos*, or, as they are commonly but erroneously called, triumphal arches, form another object of Chinese architecture, which, from its constant recurrence in views of Chinese scenery, is almost as familiar to us as the pagoda. These are, in fact, monuments to deceased persons of distinction, generally of widows who have not married a second time, or of virgins who have died unmarried. The smaller and less important ones consist merely of two upright posts of wood or granite, supporting a flat board with an inscription,[1] like, both in purpose and design, to the wooden rails which are used as substitutes for tombstones in some districts of England.



88. Pailoo near Canton. From a sketch by the Author.

The more important *Pailoos* have three openings, surmounted by several boards with more or less ornament and carving. Sometimes they are wholly of wood: in others no material is used but stone, generally granite; and these two materials are combined in various proportions in other examples. Sometimes they are raised on platforms, as in the annexed example, from a

[1] Gutzlaff, 'China Opened,' vol. ii.

peculiarly graceful one near Canton; at other times they are placed on the ground, and even across roads, so as to form archways, if so they may be called, though certainly not triumphal ones. One of the most solid examples yet published is one forming the gate, or at least spanning the entrance, of the city of Amoy.



89. Gateway at Amoy. From Fisher's China Illustrated, vol. ii. p. 69.

Like the towers, they trace their origin back to India, the gateways of the Sanchi tope[1] (woodcut 5) being the finest examples of a *pailoo* in existence; though whether used for the same purpose as that to which they are applied by the Chinese is not quite clear.

Tombs.

Like all people of Tartar origin, one of the most remarkable characteristics of the Chinese is their reverence for the dead, or, as it is usually called, their ancestral worship. In consequence of this, their tombs are not only objects of care, but have frequently more ornament bestowed upon them than graces the dwellings of the living.

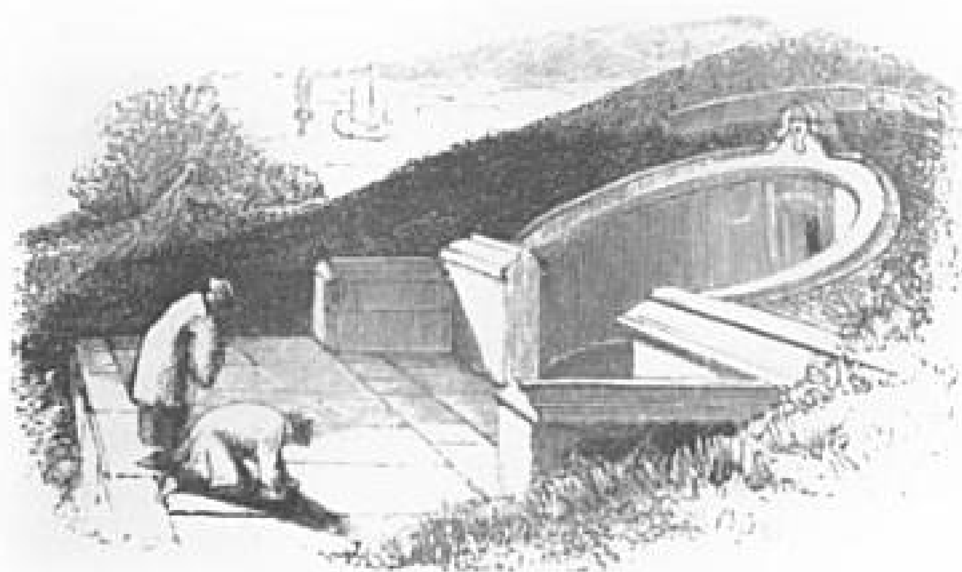
Their tombs are of different kinds; frequently they are merely conical mounds of earth, with a circle of stones round their base, like those of the Etruscans or ancient Greeks, as may be seen from the annexed woodcut (No. 90), borrowed from Fortune's 'China'—which would serve as well for a restoration of those of Tarquinia or Vulci. More generally they are of a hemispherical shape, surmounted with a

[1] Drawn in detail on the title-page of the author's Illustrations of Indian Architecture.



90. Chinese Grave. From Fortune's Wanderings in China.

spire, not unlike the Indian and Ceylonese examples, but still with a physiognomy peculiarly Chinese. The most common arrangement is that of a horseshoe-shaped platform, cut out of the side of a hill. It consequently has a high back, in which is the entrance to the tomb, and slopes off to nothing at the entrance to the horseshoe, where the wall generally terminates with two lions or dragons, or some fantastic ornament common to Chinese architecture. When the tomb is situated, as is generally the case, on a hill-side, this arrangement is not only



91. Chinese Tomb. From Fortune's Wanderings in China.

appropriate, but elegant. When the same thing is imitated on a plain, it is singular, misplaced, and unintelligible. Many of the tombs are built of granite, finely polished, and carved with a profusion of labour that makes us regret that the people who can do such things should have so great a predilection for ephemeral wooden structures, when capable of employing the most durable materials with such facility.

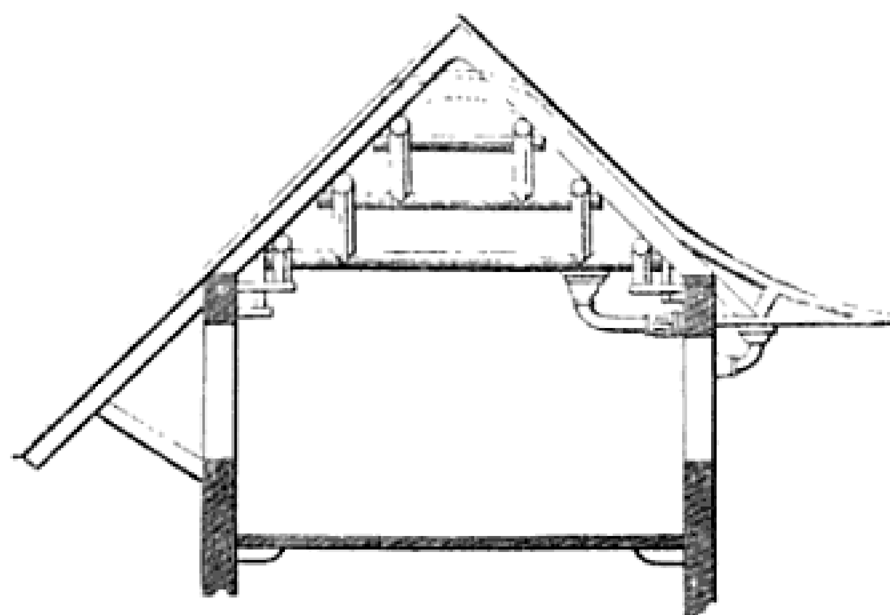
When the rock is suitable for the purpose, which, however, seems

to be rarely the case in China, their tombs are cut in the rock, as in Etruria and elsewhere; and the tombs of the class just described seem a device for converting an ordinary hill-side into a substitute for the more appropriate situation.

Domestic Architecture.

It is in their domestic architecture, if in any, that the Chinese excel; there we do not look either for monumental grandeur or for durability, and it is almost impossible to resist being captivated by the gaiety and brilliancy of a Chinese dwelling of the first class, and the exuberant richness and beauty of the carvings and ornaments that are heaped on every part of it.

One of the most remarkable peculiarities of their houses is the concave form of roof which is almost universal, and which writers on the subject have generally referred to as a reminiscence of the tent of the Tartars, who are supposed to have introduced it. They, however, who proposed this theory, forgot that the Chinese have been longer out of tents, and know less of them, than any other people now on the face of the globe. The Tartar conquest, like our Norman one, has long been a fusion rather than a subjection, and in China at least does not seem to have produced the smallest visible effect on the manners or customs of the original inhabitants. Be this as it may, the form in question arose from a constructive exigence, which others would do well to imitate, and in this manner. In a country like China, where very heavy rains fall at one season of the year, tiled roofs, such as they almost universally use, require a high pitch to carry off the water; but so bright a sunshine as at another season of the year glares down upon them, requires shade to their walls and windows. If, however, as on the left of the annexed diagram (woodcut 92), the slope of the roof is continued so far out as to be effective for the last purpose, the upper windows are too much darkened, and it is impossible to see out of them. To remedy this defect, the Chinese carry out their eaves almost horizontally from the face of the walls, where a leak becomes of slight importance; and then, to break the awkward angle caused by the meeting of these two slopes, they case it off with a hollow curve, which not only answers the double purpose of the roof more effectually, but produces what the Chinese think—and rightly—the most pleasing form of roof.



92. Diagram of Chinese construction.

The only parts of such a roof that admit of decoration by carving are evidently either the central or angular ridges; and here they exaggerate their favourite hollow curve to an extent unpleasing to a European eye—the angles being virtually turned back, in some instances, and the ridge being also ornamented by upturned ornaments at its ends, to an extent we cannot reconcile with our notions; nor indeed is it possible we should, when they are overloaded with grotesque ornaments to the extent too often found.

Another peculiarity that gives so local a character to their architecture is their mode of framing a roof, so unlike that used by any other people. This arises from the timber they possess most easily available for such a purpose being a small pine, found everywhere, in the south at least, which has the peculiarity of being soft and spongy in the inside; but the outer rims of wood, just under the bark, retain their hardness and strength; so that practically it is a hollow wooden cylinder; and if the carpenter were to attempt to square it, so as to form a framing as we do, it would fall to pieces; but merely cleaned and used whole, it is a very strong and durable building material, though one which it requires all a Chinaman's ingenuity and neatness to frame together with sufficient rigidity for the purposes of a roof.

The uprights which support these roofs are generally formed of the same wood, though not unfrequently they are granite posts—they cannot be called pillars—of the same dimensions, and strengthened, or rather steadied, by transverse pieces of wood, the space between which and the roof is generally filled with open-work carving, so as to form a species of frieze.

The roof is usually constructed, as shown in diagram No. 92, by using 3 or 4 transverse pieces or tie-beams, one over the other, and supporting the ends of each beam on that below it by means of a framed piece of a different class of wood. By this method, though it may look unscientific to our eyes, they make up a framing that resists the strongest winds uninjured. Sometimes, as shown in the dotted lines of the same woodcut, they carry the curve across the top of the roof; but when this is done they are obliged to have recourse to metal roofing, or to tiles of a greater length than are usually found or easily made.

As before remarked, however, it is not so much on its forms that Chinese architecture depends as on its colours—the pillars being generally painted red, the friezes and open work green; blue marks the floors and stronger lines, and gilding is used profusely everywhere. Whether this would or would not improve a finer or more solid style of art may admit of doubt; but it is certainly remarkably pleasing in China, and singularly appropriate to the architecture we have been describing; and grouped as these buildings usually are around garden courts, filled with the gayest flowers, and adorned with rock-work and fountains more fantastic than the buildings themselves, the fancy may easily be charmed with the result, though taste forbids us to approve of the details.

Temples.

I have put off to the last speaking of the temples of the Chinese, because they partake far more of domestic architecture than in almost any other country. They possess no sacred forms which distinguish them at first sight from private edifices, and scarcely rise in dignity beyond the mansions of the great.

One of the largest temples to which Europeans have had access is that of Honan, opposite Canton. It consists of an oblong enclosure of some extent, both sides of which are occupied by the dwellings and gardens of the priests, which have nothing to distinguish them from the houses outside. In the centre, however, of the end facing the river, is a gateway of some pretension, which leads to a hall of moderate dimensions, and through this to a second and a third, the last being larger and more richly ornamented than either of the other two. This inner hall contains images of the three precious Buddhas in white marble, and also a small model of a dagobah of the same material, and with a number of offerings and images strewed about; and the painting and carving with which it is adorned make up a tolerably rich effect, but far more resembling and more appropriate for a hall in a mansion [1] than a temple dedicated to worship. The small temple at Macao, represented in the annexed woodcut, has more pretension to architectural beauty, though its dimensions are very inferior; but no Chinese temple, so far as is known, is either larger than this of Honan, or possesses anything of that monumental character which we usually



93. Temple at Macao. From a sketch by the Author.

[1] When Lord Amherst returned from Pekin he was lodged in this building. The images and all the sacred vessels were removed for the occasion, and the room was used as the dining-room of the Embassy.

find in all those edifices which other nations have dedicated to the honour of the Supreme Being.

When we come to know more of China than at present, it is possible that this opinion may to some extent be modified; but certainly no views published by any of those who have traversed the country, nothing that has been written, and no Chinese drawings, of which abundance exist, lead us to suppose that anything except the pagodas, pailoos, and tombs, have ever been erected by them at all worthy of notice as architectural subjects.

Indeed, the two purely Chinese sects seem to be wholly without temples of any sort, and their example seems to have influenced the Buddhists to such an extent as to prevent their attempting anything at all monumental; and there seems no reason for believing that anything better than these domestic-looking *viharas*—half temple, half monastery—exists in any part of the country.

The same remarks apply to Japan and the other large and populous islands around China. Domestic architecture is brilliant and cheerful in them all, but ephemeral; and none of them possess any monuments designed to last beyond the generation that erected them.

Their engineering works have been much extolled by some writers, but they have no more claim to praise as works of science than these buildings have as works of art. Their canals, it is true, are extensive; but with 300 millions of inhabitants this is small praise, and their construction is most unscientific. Their bridges, too, are sometimes of great length, but generally made up of a series of small arches constructed on the horizontal principle, as nine-tenths of the bridges in China are, and consequently narrow and unstable. When they do use the true arch, it is timidly, and without much knowledge of its true principles.

However admirable and ingenious therefore the Chinese may be, and seem always to have been, in the minor arts—such as carving in wood and ivory, the manufacture of vessels of porcelain and bronze, and in all that relates to silk and cotton manufactures—it still must be admitted that they never rose above the rank of manufacturers, and that poetry of any grade is wholly unfamiliar to them; indeed, that they seem incapable of it in any form, either written or structural.

CHAPTER II.

CENTRAL AMERICA.

CONTENTS.

Historical Notice — Central American style — Temples — Palaces — Palenque — Uxmal.

CHRONOLOGY.

	DATES.		DATES.
Toltecs arrived in Anahuac	A.D. 648	Founded Mexico	A.D. 1125
Abandoned the country	1051	Almitzotl conquered Guatemala	beginning of 16th century.
Chichemecas arrived	1170	Spaniards arrived	1519
Acolhuans arrived, about	1200		
Mexicans reached Tula	1196		

Were it possible to write the History of Architecture in Mexico with the same certainty that we can now write that of almost every other country in the world, it would be instructive from the unity and completeness of the subject. It would be a history of an art wholly indigenous and original, uninfluenced by any foreign style, and consequently illustrating, in a close and compact space, the whole of those processes by which mankind are enabled to elaborate an art out of the simplest elements.

This is hardly the case with any of the styles of the old world, at least after we leave the Egyptian, whose origin is lost in the mists of antiquity. All other styles were influenced, more or less directly, by its forms, so that we can easily trace the influence of the Hall at Karnac in all subsequent buildings. The Indian styles, it is true, form a group apart, but not so completely distinct as the Mexican ; and the variety of their forms, and the want of unison in the parts, prevent their affording complete illustration of an art invented and completed wholly without the introduction of any foreign element.

Our whole knowledge of the early history of the inhabitants of Central America is derived from the annals of two tribes which, by their own account, in which there is nothing improbable, occupied Mexico about the 12th century of our era. These tribes, the Chichemecas and Astecs, came from the north, and were probably of the same race with the red Indians. The country which they took possession of was previously inhabited by the Toltecs, belonging to a race who had in all probability occupied the provinces of Central America from time immemorial, and who had certainly attained at the time we are speaking

of to a considerable degree of civilization, and made no mean progress in many of the useful arts.

It is recorded that the Toltecs abandoned the valley about the 10th century, in consequence of their numbers being greatly reduced by a severe famine and by disease. Nothing further is related of this tribe, but there can be little doubt that some remnant of it afterwards mixed with the invaders, and imparted to them many arts then unknown to them, and of which their more northern brethren still remain ignorant. Under these favourable circumstances of climate and aggregation, the conquerors of Mexico reached a degree of civilization which the red men never attained in their native plains.

The valley of Mexico, of which alone we have any record, is a province about twice the size of Lancashire, and one-third of it is covered with water. In process of time it became subject to three petty kings who carried on perpetual wars one with another. It was not until immediately before the conquest of the country by the Spaniards that these three kings, tired of their ruinous wars, joined their forces together, and, thus combined, proved more than a match for any of the surrounding states. They spread their arms and influence to the Mexican Gulf, penetrated to the shores of the Pacific, and on one occasion are even said to have crossed the Isthmus of Tethuantepec. and reached the confines of Guatemala. These last expeditions seem to have been undertaken merely to obtain prisoners for their horrid rites of human sacrifice, of which they were becoming passionately fond; and they made no settlement in these countries sufficient to influence either their arts or institutions in any way. Shortly after this the conquest of the Spaniards under Cortes put an end to the kingdom and power of the Astecs for ever.

All this, however, refers wholly to the Astecs in the valley of Mexico; and all the affinities that have been traced between them and their northern neighbours apply to them, and them only. The principal remains of architecture in Central America are not found in Mexico Proper, but in districts in which the Astecs never obtained a permanent footing, in Yucatan, Chiapas, and Guatemala. They are evidently works of an earlier and far more highly civilised race than that of the invaders—in short, of precisely such a race as the Toltecs are recorded to have been. Thus we have a striking concurrence of evidence—that of the Mexican annals, and of the ruins themselves—proving that, previous to the arrival of the Red Indians, these countries were inhabited by a people possessing a considerable degree of civilisation.

Were it not from what we learn from the description of the Spaniards and earlier travellers, we should now be utterly ignorant of the arts of the Mexicans themselves, all that they built having perished from the lapse of time, or having been destroyed by the savage bigotry of the invaders. Though these descriptions are often inflated and seldom intelligible, they suffice to prove that the Mexicans had learnt from their predecessors the art of building, and erected monuments capable of exciting the amazement of those who were familiar

with the cathedrals of Toledo and Seville, and knew well the palaces and monasteries of ancient Spain.

We must not ascribe even the great pyramid of Cholula or the temple of Tlascala to the Mexicans. These cities, though so near to the Mexican capital, were inhabited by a people of a different race, and who practised their own arts. Beyond the Mexican boundaries there exists a country full of ruins of the most interesting character, and in a state of singularly perfect preservation, which, when properly explored, will do more to elucidate the history and to illustrate the arts of this mysterious people than anything that has yet come to light; but much remains to be done before any satisfactory result can be obtained from the materials so unexpectedly afforded us. The country has been visited by very few travellers at all capable of judging of what they saw. The explorations undertaken by Mr. Stephens,[1] and the publication of the beautiful drawings of his companion, Mr. Catherwood, first conveyed a just idea of the extent and character of these monuments; neither, however, of these gentlemen were familiar with the rules of architectural criticism, nor capable, consequently, of properly arranging the materials they were collecting with such zeal and talent; and it still remains for some one who has the knowledge and the energy requisite for such a task to complete the work they have so nobly begun, and to read for us the history of Central America, and the long-forgotten Toltecs, as written by them in their monuments.

No one could be long among these buildings, provided he was familiar with the styles of other parts of the world, without perceiving a sequence among them, and, when once this is done, the problem is half solved: We may never be able to ascertain at what exact date the earliest building was erected, nor when the last was completed: but we may be able to trace the steps by which the style arose, to judge how far it was capable of further development, and also, perhaps, to learn the origin and history of the people to whom it belonged.

These last are the forms of the problem that have been hitherto most carefully and zealously investigated, though with singularly little success. Because this people built pyramids and engraved hieroglyphics, it is conjectured that they came from Egypt. Their temples are supposed to be copies of the temple of Belus at Babylon. Lord Kingsborough's great work was undertaken to prove that the temple of Palenque was built on the model of Solomon's, and, consequently, that the people were Jews. Certain astronomical similarities have been assumed as identifying them with the Moguls, and so on *ad infinitum*. But there is not one of these supposed links of evidence which can be relied upon when we consider what very natural shapes to be adopted by a rude people are those of the rectangular pyramid of stone or brick and the conical mound of earth. The same may be said of picture-writing as a mode

[1] Previous to Mr. Stephens's book the ruins only of Palenque were known through Lord Kingsborough's work, and some others had been imperfectly sketched.

of expressing the thoughts. There may no doubt be certain affinities with the old world. Influences may have come by Behring's Straits, or across the ocean. The only connection that can be traced with any certainty is with the Polynesian islanders. The very variety of the theories just mentioned almost proves that none can be made out at all satisfactorily. On the whole we may safely exclude all such considerations, and treat of the architecture of Central America as complete in itself, and unconnected with any other known style.

Central American Architecture.

Owing to our imperfect knowledge of the subject, it is not easy to define the various classes of buildings into which the examples we possess should be divided. As in almost all countries, however, the principal are the Teocallis or houses of God.

These are always pyramids, square in plan, and generally formed into two, three, or more stories or terraces, with a platform on the top, on which the temple, properly so called, always stands.

Next to these are the palaces, or the houses of kings, which are extremely similar to the temples, except in the number and extent of the chambers they contain, and also that, generally, the pyramids on which they stand are lower, and much longer in one direction than in the other.

A third class are tumuli or mounds of earth, with sepulchral chambers, generally above ground, the openings of which are visible outside; their outline seems to have been merely that of a mound of earth with no buildings on the top.

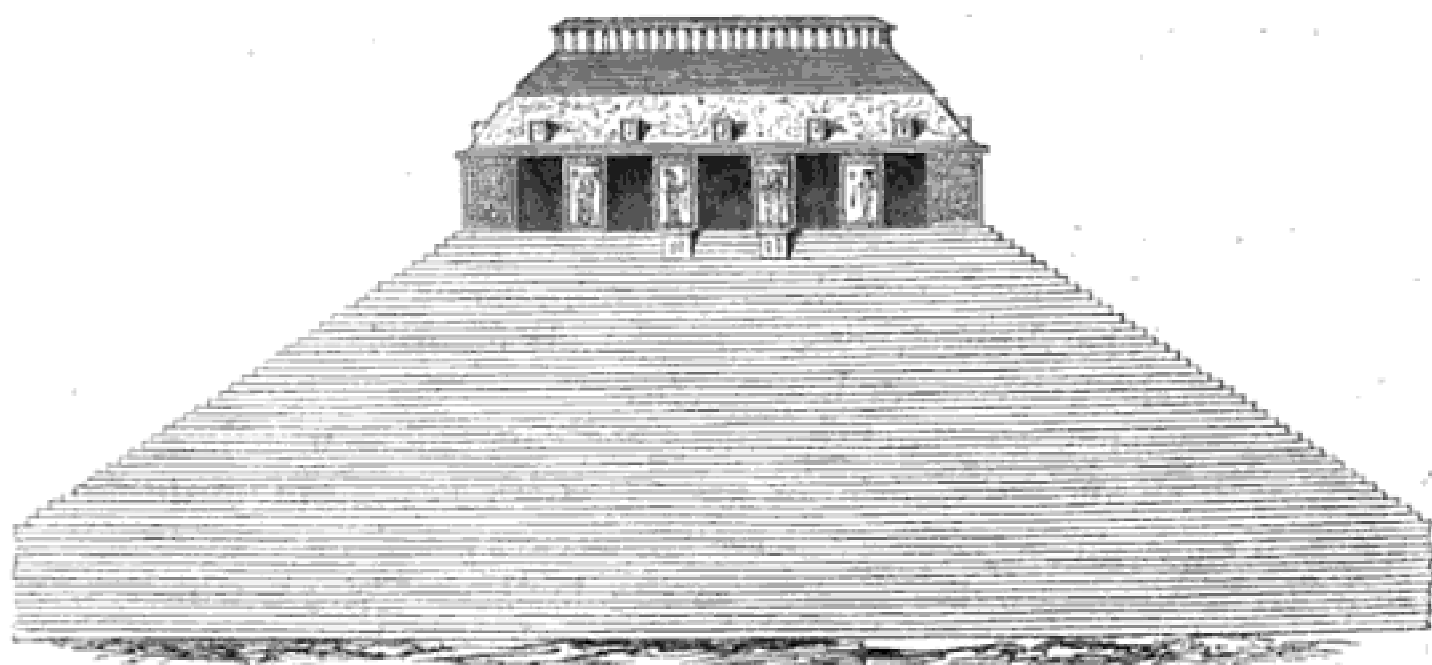
Besides these there are gateways apparently more intended for display than defence, city walls, wells, and various works of public utility, and great monolithic idols, which belong more to the province of architecture than to anything that can be styled imitative sculpture.

As specimens of architecture, however, in reality only the two first deserve notice in a work like the present.

Of the first class, by far the largest and most celebrated is the pyramid of Cholula, near Mexico, said to have been erected long before the arrival of the Astecs. It is now a mere mound of ill-built bricks and rubbish. In plan it measures 1440 ft. each way, and the height of its 4 terraces is 177 ft. Its area, therefore, was nearly four times that of the largest of the Egyptian pyramids, though its height is not much more than one-third. When we come to consider the material and skill required for the erection of the two, no comparison can be made between this rude mound of the Americans and the imperishable structures of the Egyptian kings. On the large platform on its summit now stands a church dedicated to the Virgin, and no remains of ancient architectural ornament exist, either in or about the place, by which its style or affinities can be guessed. The same remarks apply to the temples of Tezcuco and Teotihuacan, and to all the buildings in the Mexican Valley.

In Yucatan the case is widely different. The pyramids there are

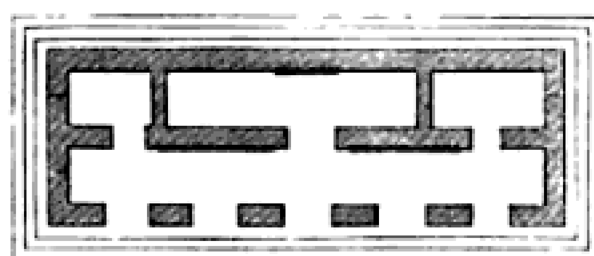
not generally in terraces, but rise, at an angle of about 45°, to the level of the platform on which the temple stands; and a magnificent unbroken flight of steps leads from the base of the building to the summit. Almost all these retain more or less of the remains of architectural magnificence that once adorned their summits. The annexed woodcut (No. 94), representing the elevation of a temple supported by



94. Elevation of Teocalli at Palenque. Scale 50 ft. to an inch.

a pyramid at Palenque, with the plan of the temple (woodcut No. 95), will give a good general idea of their form. The pyramid on which it stands is about 280 ft. square, and 60 ft. in height: on the top of this stands the temple, 76 ft. wide in front, and 25 ft. deep, ornamented in stucco with bassi-rilievi of better execution than is usually found in these parts, and with large hieroglyphical tablets, whose decipherment, were it possible, would probably reveal to us much of the history of these buildings.

The roof is formed by approaching courses of stone meeting at the summit, and following the same outline externally, with curious projections on the outside, like dormer windows, but meant apparently either for ornament or to support small idols, or for some similar purpose.



95. Plan of Temple. Scale 50 ft. to an inch.

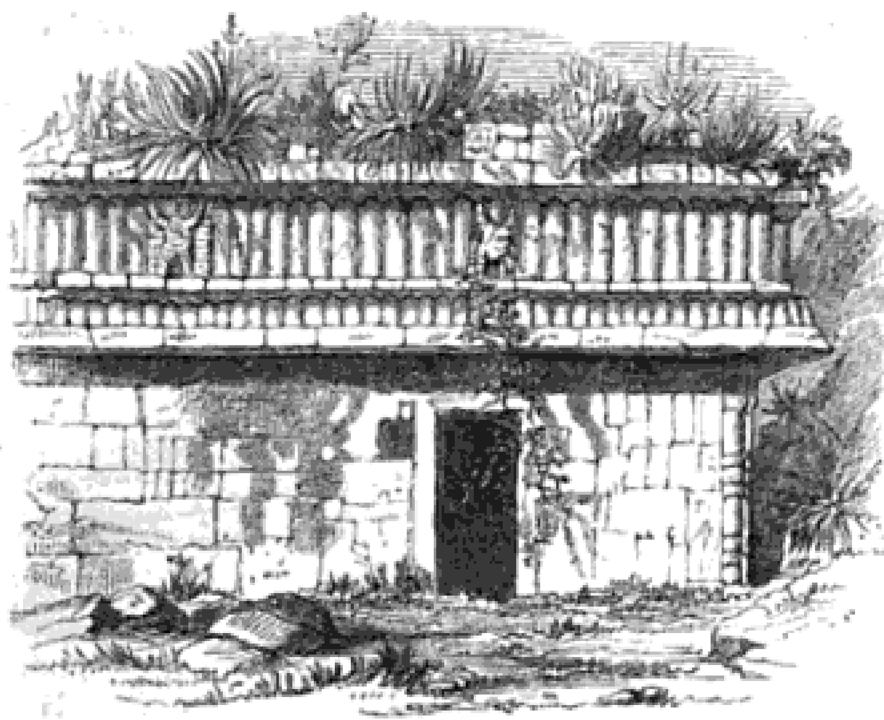
The other temples found in Yucatan differ but little from this one, except in size, and, architecturally speaking, are less interesting than the palaces—the splendour of the temple consisting in the size of its pyramid, to which the superstructure is entirely subordinate: in the palace, on the other hand, the pyramid is entirely subordinate to the building it supports, forming merely an appropriate and convenient pedestal, just sufficient to give it a proper degree of architectural effect.

In speaking of the palaces it would be most important, and add very much to the interest of the description, if some classification could be made as to their relative age. The absence of all traces of history makes this extremely difficult, and the only mode that now

suggests itself is to assume that those buildings which show the greatest similarity to wooden constructions in their details are the oldest, and that those in which this peculiarity cannot be traced are the more modern.

This at least is certainly the case in all other countries of the world where timber fit for building purposes can be procured: there men inevitably use the lighter and more easily worked vegetable material long before they venture on the more durable, but far more expensive mineral substance, which ultimately supersedes it to so great an extent. Even in Egypt, in the age of the pyramid-builders, the ornamental architecture is copied in all its details from wooden constructions. In Greece, when the art reached its second stage, the base is essentially stone, and the upper part only copied in stone from the earlier wooden forms: and so it was apparently in Mexico; the lower part of the buildings is essentially massive stone-work, the upper part is copied from forms and carvings that must originally have been executed in wood, and are now repeated in stone.

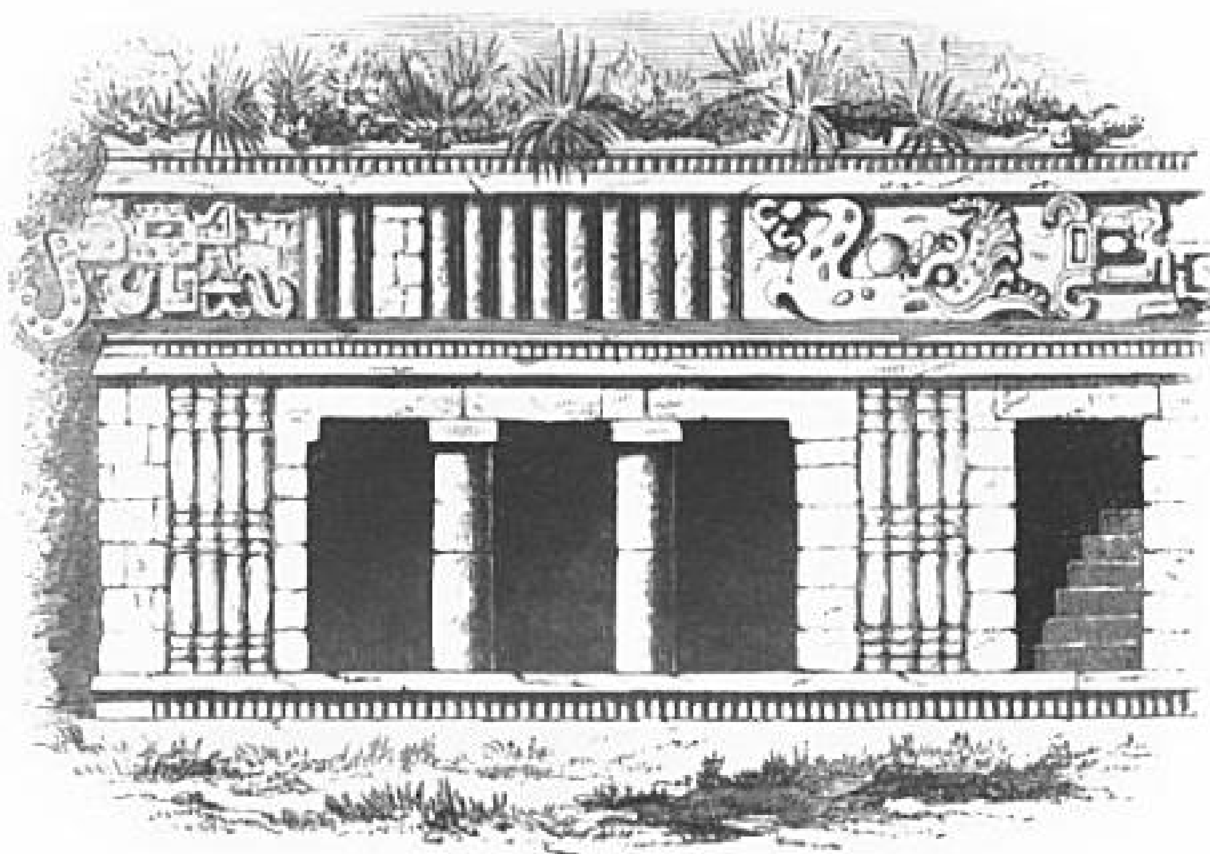
The annexed woodcut, for instance, represents in its simplest form what is repeated in almost all these buildings—a stone basement with square doorways, but without windows, surmounted by a superstructure evidently a direct copy of woodwork, and forming part of the construction of the roof.



96. Elevation of Building at Chunjuju. From a drawing by F. Catherwood.

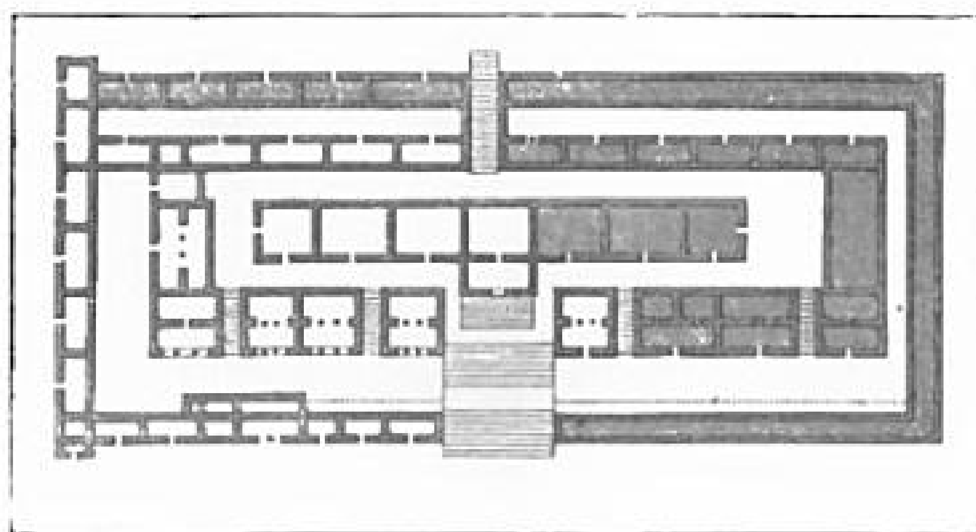
In most cases in Yucatan the superstructure is elaborately carved with masks, scrolls, and carvings, similar to those seen on the prows of the war-boats, or in the Moraïs or burying-places of the Polynesian islanders.

Sometimes pillars are used, and the wooden construction is carried even lower down, though mixed in that case with parts of essentially lithic forms. Barring the monstrosity of the carvings, there is often, as in the palace at Zayi (woodcut No. 97), a degree of elegance in the design by no means to be despised, more especially when, as in this instance, the building rises in a pyramidal form on three terraces, the one within and above the other, the lowest, as shown in the plan (woodcut No. 98), being 265 ft. in length, by 120 ft. in width. This, though far from being the largest of these palaces, is one of the most remarkable, as its terraces, instead of being mere flights of steps, all present architectural façades, rising one above the other. The upper and central tiers of buildings may possibly have been a many-celled temple, and the lower apartments appropriated to the priests, but it is



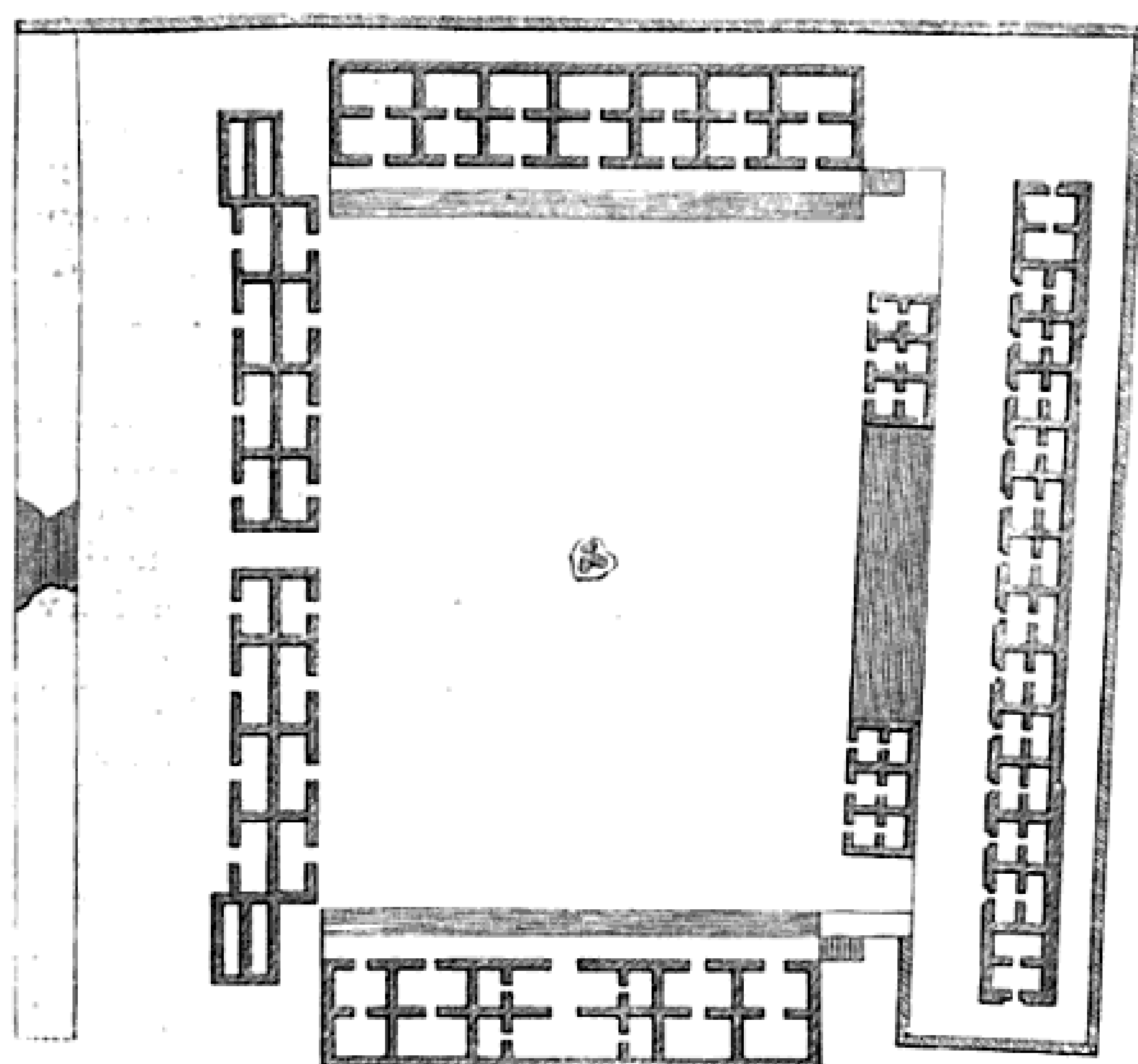
97. Elevation of part of Palace at Zayi. From a drawing by F. Catherwood.

more probable that they were all palaces, the residences of temporal chiefs, inasmuch as at Uxmal a pyramidal temple is attached to the building called the Casa del Gubernador, which is extremely similar to this, though on a still larger and more ornate scale. There are other instances also of the palace and temple standing together.



98. Plan of Palace at Zayi. Scale 100 ft. to an inch.

Sometimes, instead of the buildings standing within and above each other, as in the last example, they are arranged around a court-yard, as in that called the Casa de las Monjas at Uxmal (woodcut No. 99), one of the most remarkable buildings in Central America, for its size, as well as from the elaborateness of its decorations. It is raised on three low terraces, aggregating 20 ft. in height. The one to the south, 279 ft. long, is pierced by a triangular-headed gateway, 10 ft. 8 in. wide, leading to a court-yard, measuring upwards of 200 ft. each way, and surrounded on all sides by buildings, as shown in the plan; which, though only one story in height, are, considering their size and the elaborateness of their decorations, one of the most remarkable groups of buildings in the world.



99. Casa de las Monjas, Uxmal. Scale 100 ft. to an inch.

In the same city of Uxmal is another building, called the Casa del Gubernador, somewhat similar to the principal of the three edifices composing the Casa de las Monjas, but larger, and even more elaborate in its decorations. It stands alone, however, with only a temple attached unsymmetrically to one angle of it.

Besides these, the works of Messrs. Stephens and Catherwood describe and represent the remains of at least a dozen other cities scarcely less splendid and wonderful than Uxmal itself. The ruins of Palenque have long been known in this country from the splendid work of Lord Kingsborough, and those at Mitlan from Humboldt, and afterwards more fully from Lord Kingsborough's work. The latter are remarkable for a hall, whose roof was supported by pillars of porphyry, at one time supposed to be the only pillars to be found in that country. But, as already shown at Zayi and elsewhere, they are frequently used.

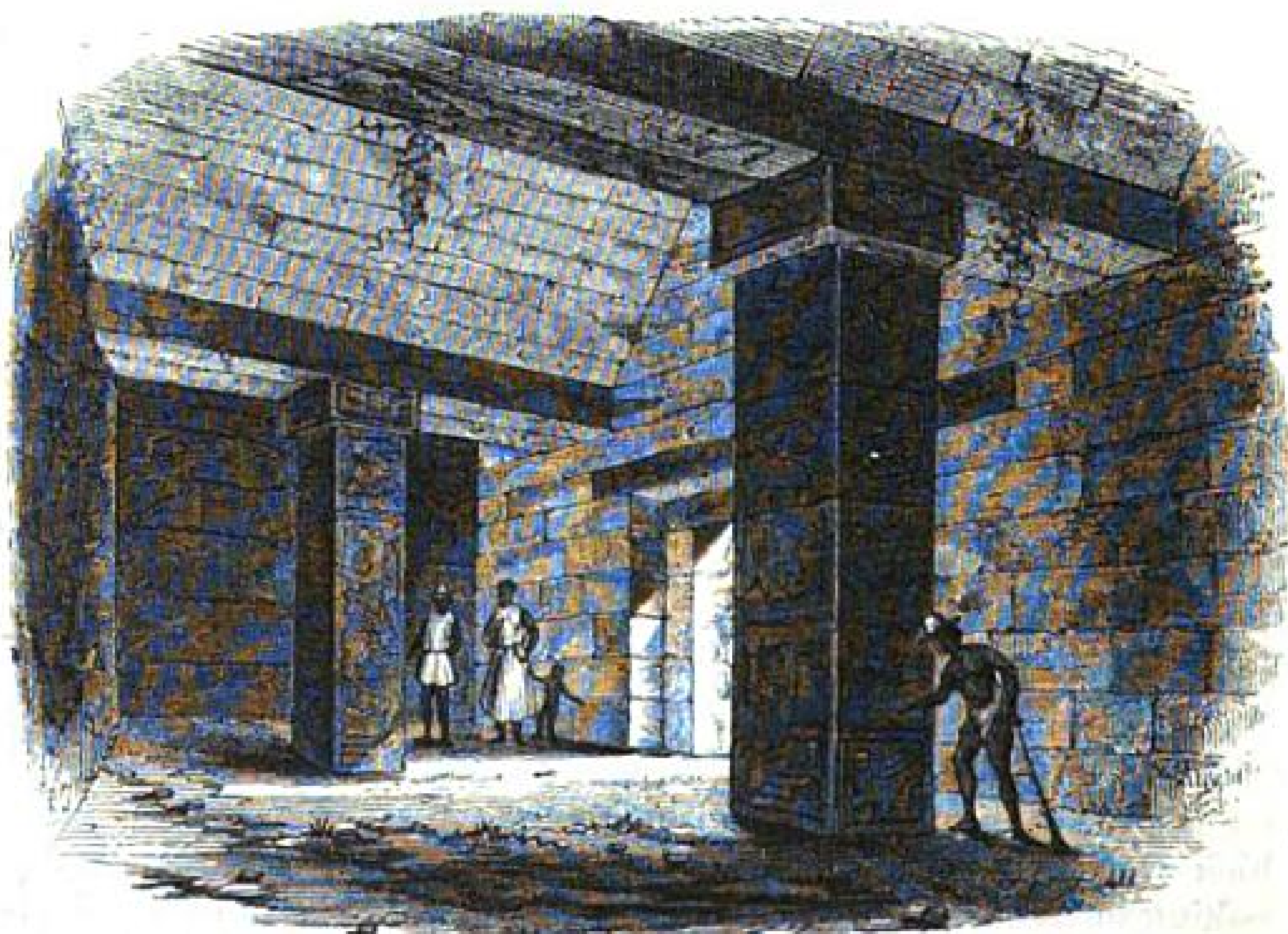
With regard to construction, as above remarked, the style may be generally characterized as one remove from the original wooden construction of early times. No wooden buildings, or even wooden roofs, now remain, nor could any be expected to have resisted the effects of the climate; but many of the lintels of the doorways were formed by wooden beams, and some of these still remain, though most of them have perished, bringing down with them large portions of the walls which were supported by them. In other instances, and generally speaking in those that seem most modern, the upper parts of the doorways, as well as the roofs of the chambers, are formed by bringing the

courses nearer together till they meet in the centre, thus forming a horizontal arch, as it is called, precisely as the Etruscans and all the earlier tribes of Pelasgic race did in Europe at the dawn of its civilisation, and as is done in India to this day. This form is well shown in the annexed woodcut (100), representing a chamber in the Casa de las Monjas at Uxmal, 13 ft. wide. The upper part of the doorway on the right hand has fallen in, from its wooden lintel having decayed.



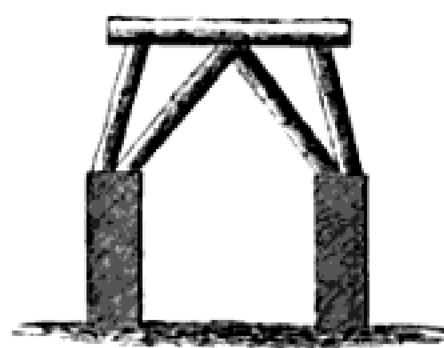
100. Interior of a Chamber, Uxmal. From a drawing by F. Catherwood.

A still more remarkable instance of the construction employed by the natives is shown in the woodcut (No. 101), representing a room in a temple at Chichen Itza in Yucatan. The room is 19 ft. 8 in. by 12 ft. 9 in.; in the centre of it stand two pillars of stone, supporting beams of sapote-wood, which also form the lintels of the door, and over these is the stone vaulting of the usual construction: the whole apparently still perfect and entire, though time-worn, and bearing the marks of great age on its face.



101. Apartment at Chichen. From a drawing by F. Catherwood.

When the roof was constructed entirely of wood, it probably partook very much of the same form, the horizontal beam being supported by two struts meeting at the centre, and framed up at the sides, which would at once account for the appearances shown in the woodcuts Nos. 100 and 101. It is also probable that both light and air were introduced above the walls, between the interstices of the wood-work; which is further confirmed by the strange erection on the top of the Casa at Palenque (woodcut No. 94), where the openings look very like the copy of a ventilator of some sort.



102. Diagram of Mexican construction.

It is of course impossible to ascribe any very remote antiquity to buildings containing so much wood in their construction, and erected in a climate so fatal to the durability of any class of buildings whatever. Indeed it is probable that many were erected immediately before the conquest of the country by the Spaniards; and it is possible, though not probable, that the age of some may extend as high as the Christian era. So far as we may venture to guess at their relative dates, I should be induced to assume the buildings at Palenque as the most modern, and those of Zayi as among the most ancient of the series; but it would require far more knowledge than can be obtained from such books as have been published to speak with anything like certainty on this point.

A far more tempting field of speculation, and one that every author who has treated of the subject has indulged in more or less, is to trace the similarities that exist between this style and that of Egypt, of Pelasgia or Assyria, of China, Mongolia, &c.; and certainly there are striking similarities to many of these: the essential differences are, however, on the other hand, so remarkable, that, though it is impossible to deny the coincidences, it is far safer, for the present at least, to ascribe them to the common instincts implanted by Nature in all the varieties of the human race, which lead all mankind, in certain climates and at a certain stage of civilization, to do the same thing in the same way, or nearly so, even without any teaching, or previous communication with those who have done so before.

CHAPTER III.

PERU.

CONTENTS.

CHRONOLOGY.

Manco Capac . . . . 13th century. | Conquest by Pizarro . . . . A.D. 1534

PERU is situated geographically so near to Mexico, and the inhabitants of both countries had reached so nearly to the same grade of civilization at the time when the Spaniards first visited them and destroyed their native institutions, that we might naturally expect a very considerable similarity in their modes of building and styles of decoration. Nothing, however, can be further from the fact: indeed it would be difficult to conceive two people, however remotely situated from one another, whose styles of art differ so essentially as these two.

The Mexican buildings, as we have just seen, are characterized by the most inordinate exuberance of carving, derived probably, with many of the forms of their architecture, from wooden originals. Peru, on the other hand, is one of the very few countries known where timber appears to have been used in primitive times so sparingly that its traces are hardly discernible in subsequent construction; and, either from inability to devise or from having acquired no taste for such a mode of decoration, the sculptured forms are few and insignificant.

The material which the Peruvians seem to have used earliest was mud, and many walls of this substance, erected certainly before the Spanish conquest, still remain in a state of very tolerable preservation. The next improvement on this seems to have been a sort of rubble masonry or concrete: the last, a Cyclopean masonry, of great beauty and solidity. None of these forms, nor any of their derivatives, are found in Mexico: the climate would not permit of the use of the first—hardly of the second; and in all their buildings, even the earliest, the Mexicans seem to have known how to use stones carefully squared, and set with horizontal beds.

Another peculiarity which Peruvian art has in common with most of those derived from purely stone construction, is the sloping sides of the openings—a form invented on purpose to diminish the necessary size of the lintel. There are two discharging arches so constructed at Uxmal, but, so far as is known, none anywhere else; and no single opening of that class in the whole architectural province of Mexico.

The roofs and upper parts of the larger openings, on the contrary, almost universally slope in that country. In Peru the roofs are always flat, or domical, and the sides of the openings always straight lined.

These and many other peculiarities will be more apparent in what follows, but even as stated here they are sufficient to establish the entire difference of the two races, and to give those who have so easily assumed the Asiatic origin of the Toltecs and Astecs a second and more difficult problem to solve, in accounting for the origin of the Peruvians.

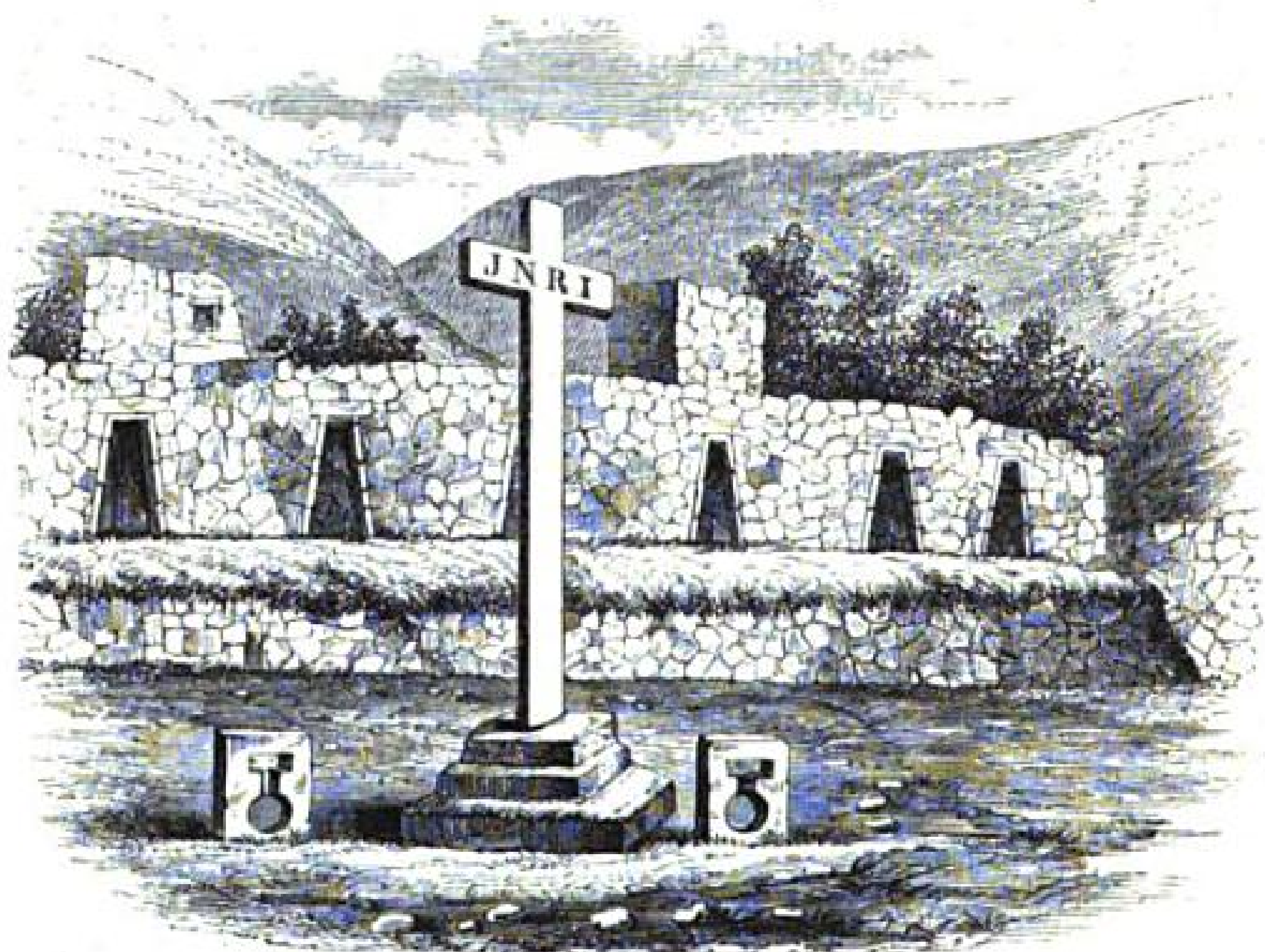
Besides this remarkable distinction between the architecture of the two countries, we have the negative evidence of their history and tradition, which make no mention of any intercourse between the Peruvians and any people to the northward. This, however, is not of much weight, as there are no accounts at all which go back so far as 3 centuries before the Spanish conquest.

At about that period it is fabled that a godlike man, Manco Capac, appeared with a divine consort on an island in the lake of Titicaca, journeying from whence they taught the rude and uncivilized inhabitants of the country to till the ground, to build houses and towns, and to live together in communities; and made for them such laws and regulations as were requisite for these purposes.

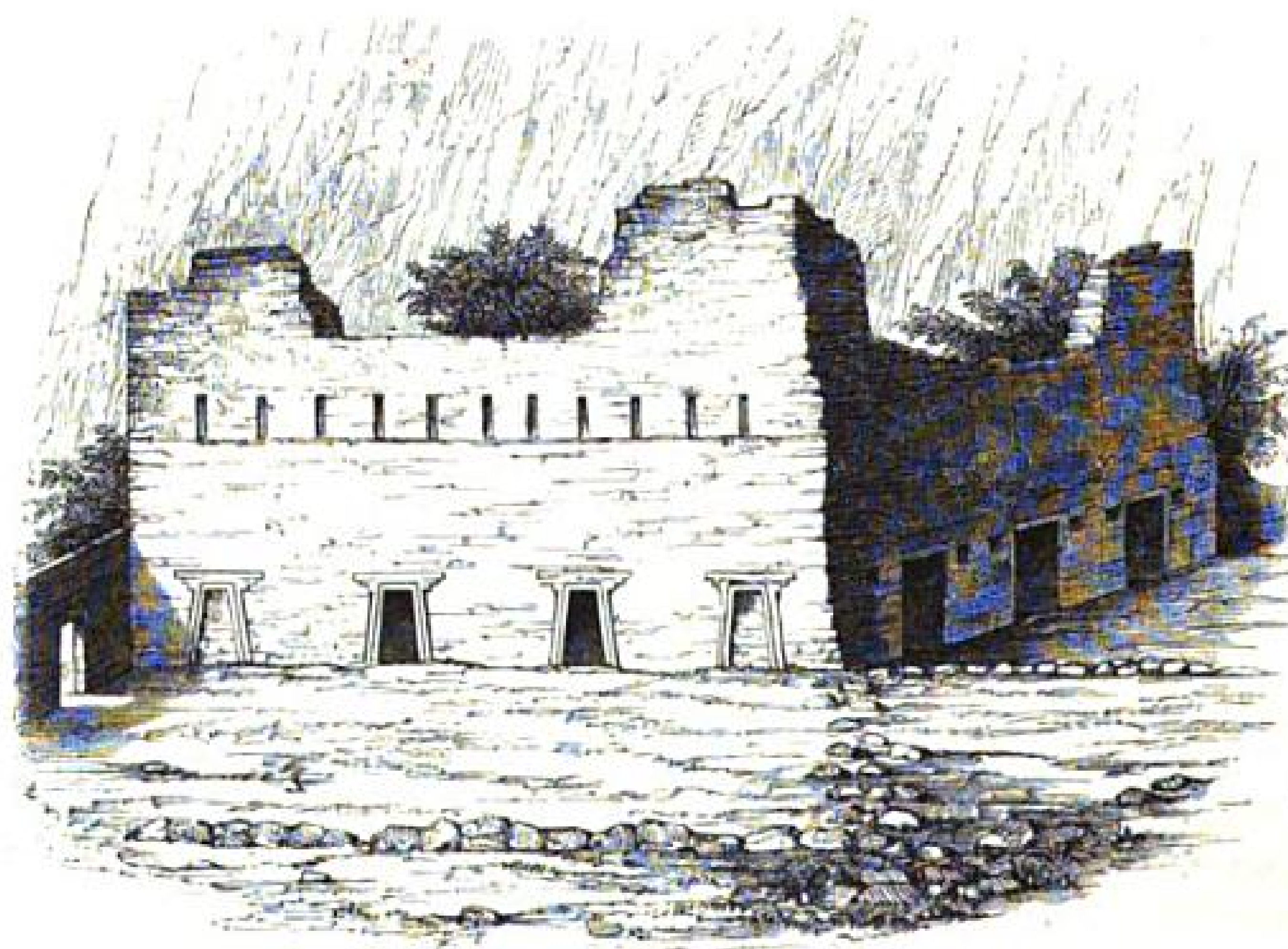
Like the Indian Bacchus, Manco Capac was after his death reverenced as a god, and his descendants, the Incas, were considered as of divine origin, and worshipped as children of the Sun, which was the great object of Peruvian adoration. At the time of the Spanish conquest the 12th descendant of Manco Capac was on the throne, but, his father having married as one of his wives a woman of the Indian race, the prestige of the purity of Inca blood was tarnished, and the country was torn by civil wars, which greatly facilitated the progress of the Spaniards in their conquests under the unscrupulous Pizarro.

In a country so deficient in history of any sort, and without a single building whose date can be fixed with certainty, it is of course impossible to write a history of its architecture; but a sequence can easily be made out, which is not the case in Mexico. By this means, if we are to confine the whole history to a period of 3 centuries, it is not difficult to fix approximately the date of any building we may find; and although it is more a question of masonry and construction than of architecture, properly so called, it is surprising what progress this rude people made in so short a time, and how they advanced from the rudest Cyclopean work to as perfect a class of masonry as is found in any part of the world.

Both from its style and the traditions attached to it, the oldest building in the country seems to be that called the house of Manco Capac, on an island in the lake of Titicaca. The part shown in the woodcut (No. 103) is curvilinear in form, standing on a low terrace, and surmounted by upper chambers, hardly deserving the name of towers. All the doorways have the sloping jambs, and the masonry is of rude, irregular polygonal blocks of no great size. Inside the wall are a number of small square chambers, lighted only from the doorway.



103. Ruins of House of Manco Capac, in Cuzco. J. B. Pentland, del.

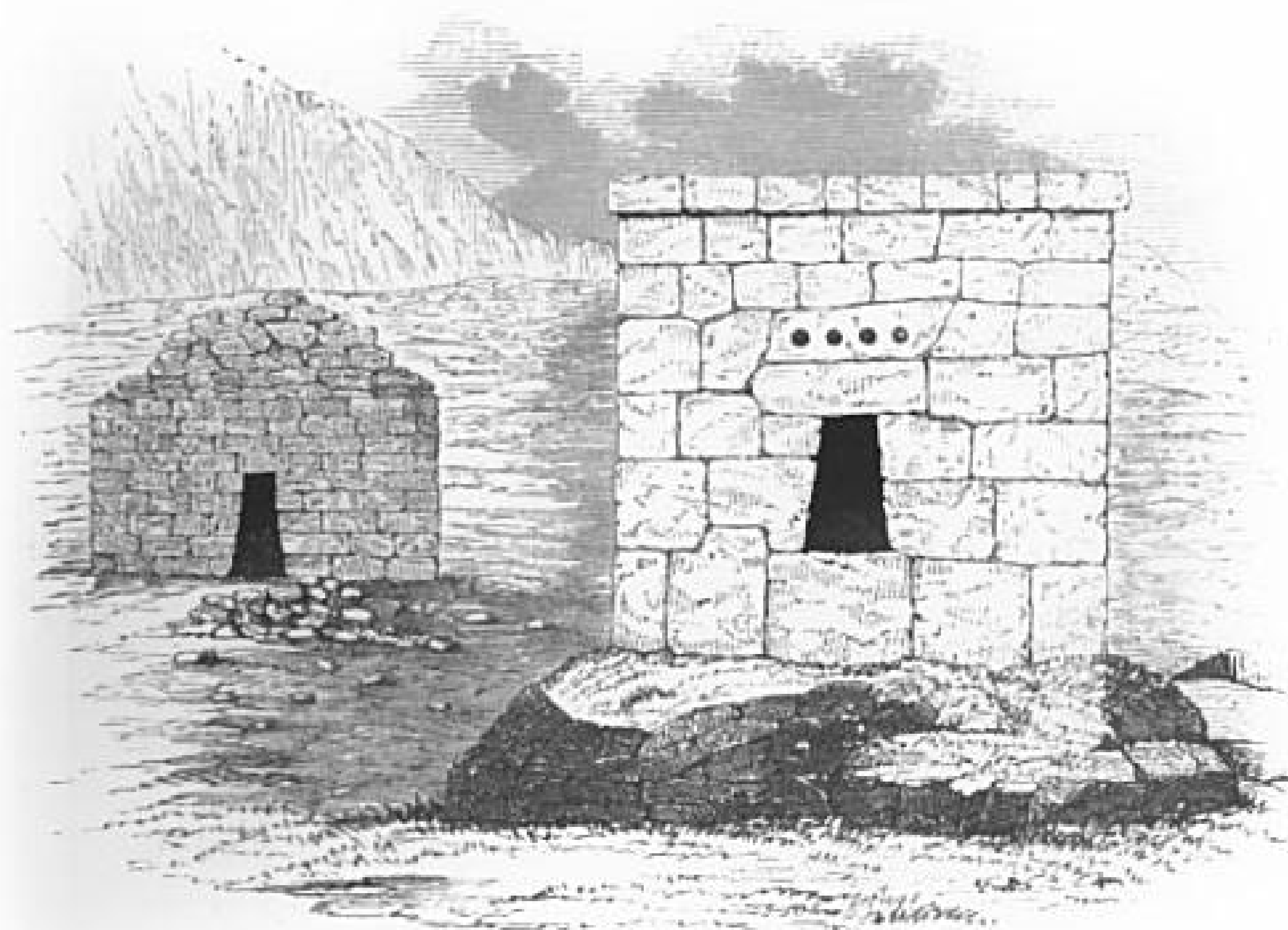


104. House of the Virgins of the Sun. From a sketch by J. B. Pentland.

A more advanced specimen of building, though inferior in masonry, is the 2-storied edifice called the house of the Nuns, or of the Virgins of the Sun, in the same place (woodcut No. 104). It is nearly square in plan, though with low projecting wings on one side, and is divided into 12 small square rooms on the ground-floor, and as many similar rooms above them. Several of these chambers were surrounded by others, and those that had no doors externally had nothing like windows (except one with two slits in the upper story); and they must have been as dark as dungeons, unless the upper ones were lighted from the roof, which is by no means improbable. The most striking architectural features they possess are the doorways, which exactly resemble the Etruscan, both in shape and mode of decoration. We are able in this case to rely upon the accuracy of the representation, so that there can be no doubt of the close similarity.

Another building on the island of Coata, in the sacred lake of Titicaca, is raised on five low terraces, and surrounds three sides of a courtyard, its principal decoration being a range of doorways, some of them false ones, constructed with upright jambs, but contracted at the top by projecting courses of masonry, like inverted stairs, in this instance, however, only imitative, as the building is of rubble.

The masonry of the principal tomb represented in the woodcut (No. 105) may be taken as a fair specimen of the middle style of

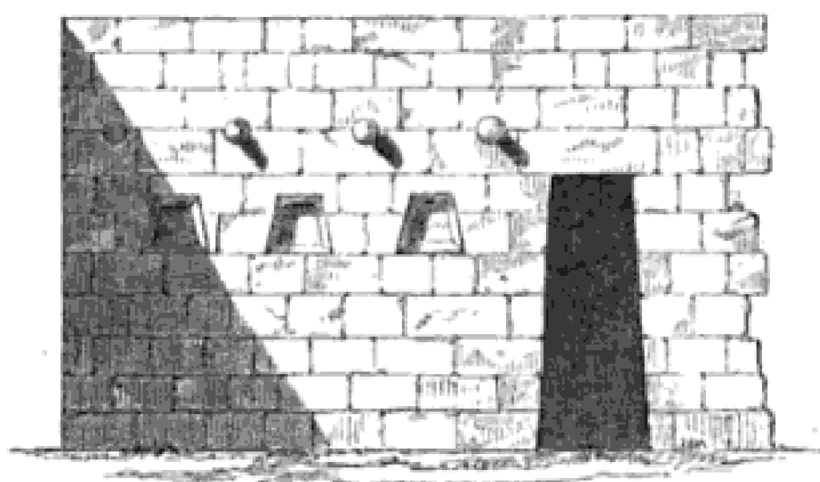


105. Peruvian Tombs.

masonry; less rude than that of the house of Manco Capac, but less perfect than that of many subsequent examples. It is square in plan—a rare form for a tomb in any part of the world—and flat-roofed. The sepulchral chamber occupies the base, and is covered by a floor, above which is the only opening. The other tomb in the background is likewise square, but differs from the first in being of better masonry, and

having been originally covered, apparently, with a dome-shaped roof either of clay or stucco. Some of these tombs are circular, though the square form seems more common, in those at least which have been noticed by Europeans.

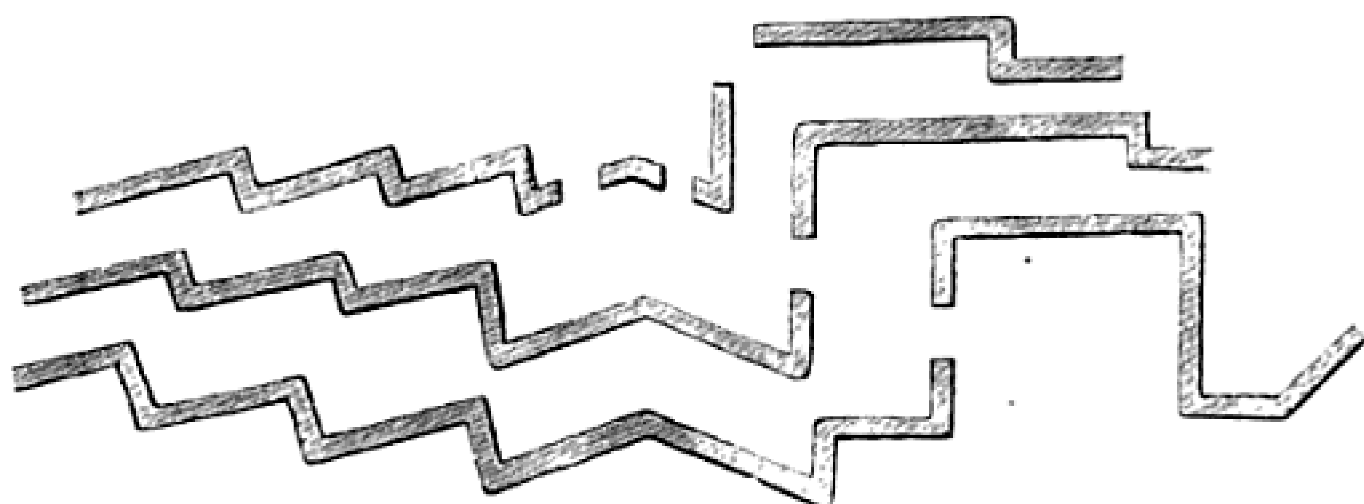
A specimen of the perfected masonry of the Peruvians is represented in the woodcut No. 106, of a portion of one of the Caravanserais, or *Tambos*, erected by the last Incas along the great road they made from their oldest capital, Cuzco, to Sinca. The road was itself perhaps the most extraordinary work of their race, being built of large blocks of hard stone, fitted together with the greatest nicety, and so well constructed as to remain entire to the present day in remote parts where uninjured by the hand of man.



106. Elevation of Wall of Tambos. From Humboldt's Atlas Pittoresque.

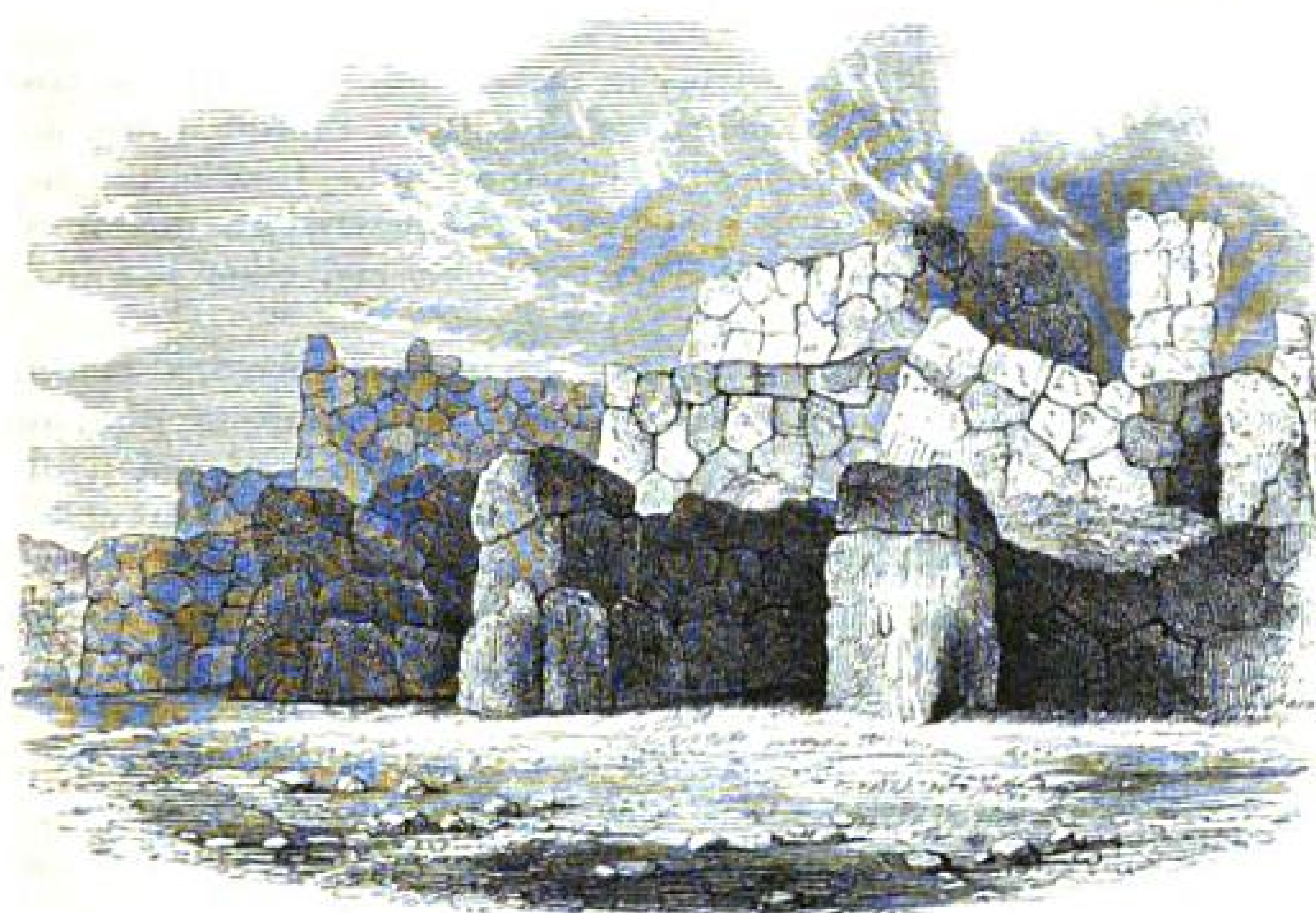
As will be observed, the masonry here is in regular courses, and beautifully executed, the joints being perfectly fitted, and so close as hardly to be visible, except that the stones are slightly convex on their faces, something after the manner of our rustications.

Intermediate between the two extremes just mentioned are the walls of Cuzco, the ancient capital of the kingdom, forming altogether the most remarkable specimen now existing of the masonry of the ancient Peruvians. They are composed of immense blocks of limestone, of polygonal form, but beautifully fitted together: some of the stones are 8 and 10 ft. in length, by at least half as much in width and depth, and weigh from 15 to 20 tons; these are piled one over the other in 3 successive terraces, and, as may be seen from the plan, are arranged with a degree of skill nowhere else to be met with in any work of fortification anterior to the invention of gunpowder. To use a modern term, it is a fortification *en tenaille;* the re-entering angles are all right angles,



107. Sketch Plan of Walls of Cuzco. No scale.

so contrived that every part is seen, and as perfectly flanked as in the best European fortifications of the present day.



108. View of Walls of Cuzco. J. B. Pentland, del.

It is not a little singular that this perfection should have been reached by a rude people in Southern America, while it escaped the Greeks and Romans, as well as the Mediæval engineers. The true method of attaining this perfection was never discovered in Europe until it was forced on the attention of military men by the invention of gunpowder. Here it is used by a people who never had, so far as we know, an external war, but who, nevertheless, have designed the most perfectly planned fortress we know.

Between these various specimens are many more, some less perfect than the walls of Cuzco, showing greater irregularity in the form, and a greater admixture of large and small stones, than are there found; others, in which all the blocks are nearly of the same size, and the angles approach nearly to a right angle. Examples occur of every intermediate gradation between the house of Manco Capac (woodcut No. 103) and the Tambos (woodcut No. 106), precisely corresponding with the gradual progress of art in Latium, or any European country where the Cyclopean or Pelasgic style of building has been found. So much is this the case, that a series of examples collected by Mr. Pentland from the Peruvian remains might be engraved for a description of Italy, and Dodwell's illustrations of those of Italy would serve equally to illustrate the buildings of South America.

We do not know how long the natives of Italy were in elaborating the regular squared masonry out of the polygonal style, but here we are forced to believe that the whole was done within the short space of less than three centuries, and there seems no reason for doubting that the

greater or less regularity in the masonry is a correct index to the relative age of any specimen we may find.

One element only seems to interfere with this regularity of succession, namely, the nature of the material. Where polygonal masonry is found, it is always and invariably in limestone. This material fractures with regularity, and the facets are easily rubbed down and worked into those smooth, even joints which we find. It seems, in fact, to be a limestone form of masonry, but even that material was afterwards forced to follow the forms adopted for sandstone and other less tractable materials.

Though not quite so certain, it seems also that the polygonal method was used only by people who were ignorant of the use of iron, and were consequently forced to employ tools of copper, hardened with a certain admixture of tin or zinc. We know that very excellent chisels can be, or rather could be, so made, from their having been generally employed by the Egyptians, even in their greatest works; but iron certainly is a better and more economical material, and with its introduction polygonal masonry seems everywhere to have disappeared.

It would be a tempting subject for speculation to try to account for the remarkable similarity in style that exists between these Peruvian buildings and the Pelasgic remains of Italy. But the distance of time at which the style was practised in the two countries is sufficient proof that the resemblance is only accidental. It was disused in Europe at least 5 or 6 centuries before Christ, and did not commence in Peru till 12 centuries after Christ, so that, unless these facts can be controverted or some channel pointed out—of which no trace now exists—by which the style could have been so long preserved, and at last carried to the New World, the fact can only remain as the most remarkable coincidence known to exist in the whole history of architecture. It must be borne in mind that in both cases the style is a mere masonic form, almost wholly without mouldings, and entirely without sculptures: had either of these existed, the chances of such a coincidence would have been diminished a thousand fold. It affords another and even a stronger evidence than that of the pyramids of Mexico, to prove how much alike human nature is in the same stage of civilisation, however distant the country may be, and however different the external circumstances of the people may appear at the first superficial glance.

BOOK IV.

CHAPTER I.[1]

ASSYRIA.

CONTENTS.

Historical Periods — Palaces at Nimroud — Khorsabad — Koyunjik — Babylonia.

CHRONOLOGY.

	DATES.		DATES.
Foundation of Nineveh by Ninus . about	B.C. 1341	Nebuchadnezzar builds Babylon . . .	B.C. 600
Ashurakbal builds north-west palace at Nimroud . . . . about	900	Cyrus founds Passargadæ	560
Devanubara builds central palace at Nimroud, &c.	870	Buildings of Cambyses at Passargadæ. .	525
Arbaces	821	Darius builds palace at Persepolis . . .	521
Sargon builds palace at Khorsabad . . .	722	Xerxes' halls at Persepolis and Susa . .	486
Sennacherib builds palace at Koyunjik .	702	Artaxerxes Mnemon repairs buildings at Persepolis and Susa	405 to 360
Esarhaddon builds south-west palace at Nimroud	690	Alexander burns palace at Persepolis, ruins Susa, and destroys the Persian empire	332

In following out the principles laid down in the Introduction, and adopting an arrangement of subject partly geographical and partly chronological, as the most convenient and the one least likely to lead to repetition, the next great section into which our subject divides itself is that of Assyrian architecture. This is easily defined, both in space and in time. Locally, it comprises all the countries between the Valley of the Indus and the Mediterranean Sea—the Western boundaries being the Sea of Marmora, the Mediterranean, and the Red Sea; the Northern, the Caucasus, and the seas on either hand; the Southern, the Indian Ocean.

Through the centre of this great region flow the Euphrates and the Tigris. It is on the banks of these rivers that the people were first

[1] This chapter and that next following may be regarded as, in all essential respects, an abridgment or condensation of the information contained in a work published by the author about two years ago, entitled, 'The Palaces of Nineveh and Persepolis Restored,' the only real difference being that the more perfect decipherment of the inscriptions since that work was published has caused some of the palaces and buildings to be ascribed to different kings and dynasties from those to whom they were then assigned, and proved them to be more modern than was suspected, for the oldest at least. Their order, however, remains the same, and so consequently do all the architectural inferences drawn from it. Those readers who may desire further information on the subject are referred to the work alluded to.

grouped together in civilised communities; and from this centre the arts and the peculiar civilisation of the race spread outwards to all the boundaries of the province.

During the whole period through which our acquaintance with these countries extends, we find the three great typical races of mankind, the Tartar, the Semitic, and the Arian, living together in the Valley of the Euphrates, and intermingled with one another in a manner that makes it extremely difficult to discriminate between them.

It would be out of place to enter here into any discussion of the origin and affinities of the Assyrian people, the subject of whose architecture we are now entering upon, the principal point being that, at the period to which all the monuments hitherto discovered belong, the architecture of Assyria was that of a Semitic people, and especially interesting as exhibiting actual examples of that style with which we have long been familiar from the descriptions in the Bible of the buildings of Solomon.

The discovery of the palaces of Nineveh has enabled us to understand what we never could have distinctly made out from mere verbal descriptions. The architecture of Assyria is now as familiar to us as that of Egypt, and we can realise as correctly the appearance of the house of the Forest of Lebanon as we could that of Greek temples from the description of Pausanias, aided by the examination of their actual remains.

The Assyrian is an entirely new chapter added to our history of architecture since the year 1843, and certainly not one of the least interesting, not only from its own intrinsic merits and the beauty of many of its forms, but because of its historic value, being the sister style to that of Egypt, and the parent of all the Ionic forms we afterwards find so currently and so beautifully blended with the architecture of Greece.

Until the discoveries in Assyria were made, half the history of the architecture of Greece was a riddle and inexplicable mystery; now all is clear, and with Egypt on the one hand, and Assyria on the other, we are enabled to trace every feature to its source. These two still stand, and probably will ever remain, as the primitive styles of the human race—essentially distinct in all their more important features, borrowing very little from each other, but each working out its own objects independently of the other. It seems absolutely hopeless to look for anything anterior to the style of Egypt which can have had any influence upon it; and, so far as we can see, nearly as idle to attempt to find in Asia anything that can have influenced the architectural style of the great Assyrian empire.

Politically the history of the country separates itself into two great divisions, between which comes the Egyptian domination under the 18th dynasty. To the earlier period belong the migrations of Nimrod and Asshur, the building of Kalah, Resen, and Nineveh in Assyria—of Erech, Accad, Babel in the South, and the still more famous erection of the tower of Babel. It is uncertain, however, from the Biblical account, whether the latter erection was ever allowed to

be raised much above the foundation, and there certainly is no sufficient evidence for assuming that the temple of Belus, described by the Greeks, was either the tower of Babel itself, or even at all resembled it. Still less is it possible now to attempt to identify that building with the Birs Nimroud, every brick of which bears the name of Nebuchadnezzar, the son of Nobopolassar. Nor, indeed, can we feel sure that one single remnant exists of all the buildings of this early age.

Although it is nearly certain, from the monumental records of Egypt, that the Egyptians overran Assyria, and practically must have held it in subjection for nearly 5 centuries—from the 19th to the 14th B.C. —still they have left no monuments in the subject land; nothing, indeed, by which we can now trace the extent of their domination; and none appear to have been raised by the natives while under their rule of sufficient importance to last to a later period.

The architectural history commences therefore with the period marked by the Greeks as that of the rise of Ninus and his successors—about the middle of the 14th century B.C.—coinciding with the decline of the power of the Egyptians, and the exode of the Jews from that country.

This second or great Assyrian period divides itself again into two epochs, the first extending from Ninus (1341) to the revolt of Arbaces (821), a period of 520 years. To this age belong the North-west palace of Nimroud, the Central palace, the rock-cut sculptures at Bavian, and generally all the older monuments of the Assyrian period.

The second epoch extends over only 221 years, from Arbaces to the destruction of Nineveh, about the year 600, and, so far as architecture is concerned, is by far the most brilliant. To it belong the palace at Khorsabad, built by Sargon (Shalmaneser?) about 722 B.C., that of Koyunjik by Sennacherib (703), the South-west palace at Nimroud by Esarhaddon (690), and the North palace at Koyunjik, built apparently by a son of Esarhaddon. These are the most splendid edifices yet discovered, and, now that the inscriptions have been deciphered, there can be almost no doubt either as to the name of the king who built them, or to the approximate dates above given for their erection.

On the destruction of Nineveh Babylon rose from its ruins with renewed splendour during the reign of Nebuchadnezzar; and it is to him, as before remarked, that every building yet discovered about Babylon and the Birs Nimroud owes its origin; at least every brick hitherto exhumed is marked with his name. They are now all nearly formless ruins, and add little to our architectural knowledge, though much historical information may hereafter be gleaned from their more careful study.

From Babylon we pass to Passargadæ, which was adorned by Cyrus and Cambyses between the years 560 and 523, and thence to the far more magnificent capital of Darius and Xerxes, who have left on the platform of Persepolis remains of architectural magnificence unrivalled in the country, and which may be considered as the culminating form of the earlier architecture of the Assyrians and Babylonians.

M 2

At Susa, Artaxerxes Mnemon erected or restored a great hall, very similar to that at Persepolis; and, as far as Ecbatana and Teheran, remains are found of this great Persian style, which closes the first series of the architectural monuments of Assyria.

Contemporary with the Assyrian period are the buildings of Solomon at Jerusalem, and contemporary with the Persian arose that peculiar style of imitating wooden erections in stone which prevailed all over Lycia and the southern provinces of Asia Minor. To the same age also belong the rock-cut sculptures of Doganlu, and those of Pterium: and no doubt many curious fragments of architectural antiquity still remain to be examined in the recesses of the almost unexplored countries of Asia Minor. These, however, are the principal of those which are found during the ten centuries that elapsed between Ninus and Alexander the Great.

With the Macedonian conquest, all originality in art ceased for nearly five centuries in the valley of the Euphrates. The Greeks, it is true, built nobly in their own Ionian provinces, but it was in their own style. Syria was adorned with the still extant ruins of Baalbec and Palmyra, and almost every city of Asia Minor bears traces of Roman magnificence, but all in the Roman style. Indeed, with the one exception of the ruins of Al Hadhr, not one single edifice is known which was erected between the time of Alexander (B.C. 323) and that of the first Sassanian Ardeshir (A.D. 223), which has any claim to be called native, either in style or arrangement, and even this can hardly claim to rank higher than bastard Roman. At Diarbekir, it is said, there are some other remains of the same age, but they have not yet been delineated.

During the Sassanian period (A.D. 223 to 632) a slight revival took place in the native style of architecture. It was neither, it must be confessed, very original nor very beautiful, but still it is interesting as a transitional style, contributing many features found in the Saracenic, and still more in the Christian styles of Armenia and the neighbouring countries. So that, although it may not itself be worthy of much attention, still, as the last of the native styles of the great architectural province, and as the first of the modern styles that took shape and consistency in these Eastern provinces in the middle ages, it should not be passed over without much more attention than has hitherto been bestowed upon it. It, however, belongs more properly to a subsequent chapter, and will be more appropriately treated, as well as more easily understood, after reviewing the architecture of the Romans, many features of which are found in this Eastern style.

The remarkable absence of sacred or monumental buildings at Nineveh, or in the other Assyrian palaces, has already been alluded to. The pyramid at Nimroud, at one time supposed to be a tomb, resembles so closely the description by Greek writers of the temple of Belus at Babylon, and is so like what we now know of Babylonian temples, that it may almost certainly be classed among them. Setting, therefore, this structure aside, there are no sepulchres, no representation of funeral rites, nothing to show that the Assyrians cared for their dead,

or attached any importance to the preservation of their bodies after death.

In one corner of the palace at Khorsabad is found a building of black stone, raised on a terrace by itself, and, though much ruined, still showing, with sufficient distinctness, that it was exclusively devoted to religious purposes, and a seven-storied pyramidal temple has lately been discovered there. Nothing of the sort has been found at Koyunjik, and, with the exception of the great pyramid at the north-west angle, which is almost certainly a religious edifice, Nimroud is also without anything that can properly be called a temple.

All the buildings, therefore, that have been discovered in Assyria are palaces, or, perhaps it might be more correct to say, palace-temples, like those in Egypt, regarding which it is difficult even now to say whether they ought to be called palaces or temples. In Egypt, however, the latter element was certainly the predominant and overruling one. In Assyria, on the other hand, the buildings partook far more of the palatial than the sacred character, though, at the same time, many of the apartments seem, from the nature of their sculptures, to have been principally at least devoted to the purposes of worship.

NIMROUD.

The oldest of the buildings hitherto excavated in Assyria is the North-west palace at Nimroud, built by a Sardanapalus, about the year 900 B.C. Though not the largest, it more than makes up for this deficiency by the beauty of its sculptures, and the general elegance of its ornaments. These are not only superior to those of the following dynasty, but so different from them that it was difficult to believe that a greater interval had not elapsed between them, at least before the inscriptions had been sufficiently deciphered to correct the dates originally assigned.

As will be seen by the annexed woodcut (No. 109), the excavated portion of the palace is nearly a square, about 330 ft. each way. The principal entrance was on the north, at the head of a noble flight of steps, leading from the river to the level of the terrace on which the palace stood. From this, 2 entrances, adorned with winged bulls, led to a great hall, 152 ft. in length by 32 in width, at the upper end of which was situated the throne, and at the lower a smaller apartment or vestibule opened on the terrace that overlooked the river. Within the great hall was one of smaller dimensions, opening into the central court of the palace, the entrance of which was so arranged as to ensure privacy, proving that it partook of the nature of the private apartments or Hareem of the palace. To the eastward of this was arranged a suite of apartments, 3 deep, decreasing in width as they receded from the light. To the south was a double suite, apparently the banqueting-halls of the palace, and to the westward a fourth suite, more ruined, however, than the rest, owing to its being situated so near the edge of the terrace. As far as can be made out the rooms on this face seem to have been arranged 3 deep: the outer opened on the terrace by

109. North-West Palace at Nimroud.[1]

three portals, the central one of which had winged bulls, but the lateral seem to have been without these ornaments; the whole façade being about 330 ft. in extent, north and south.

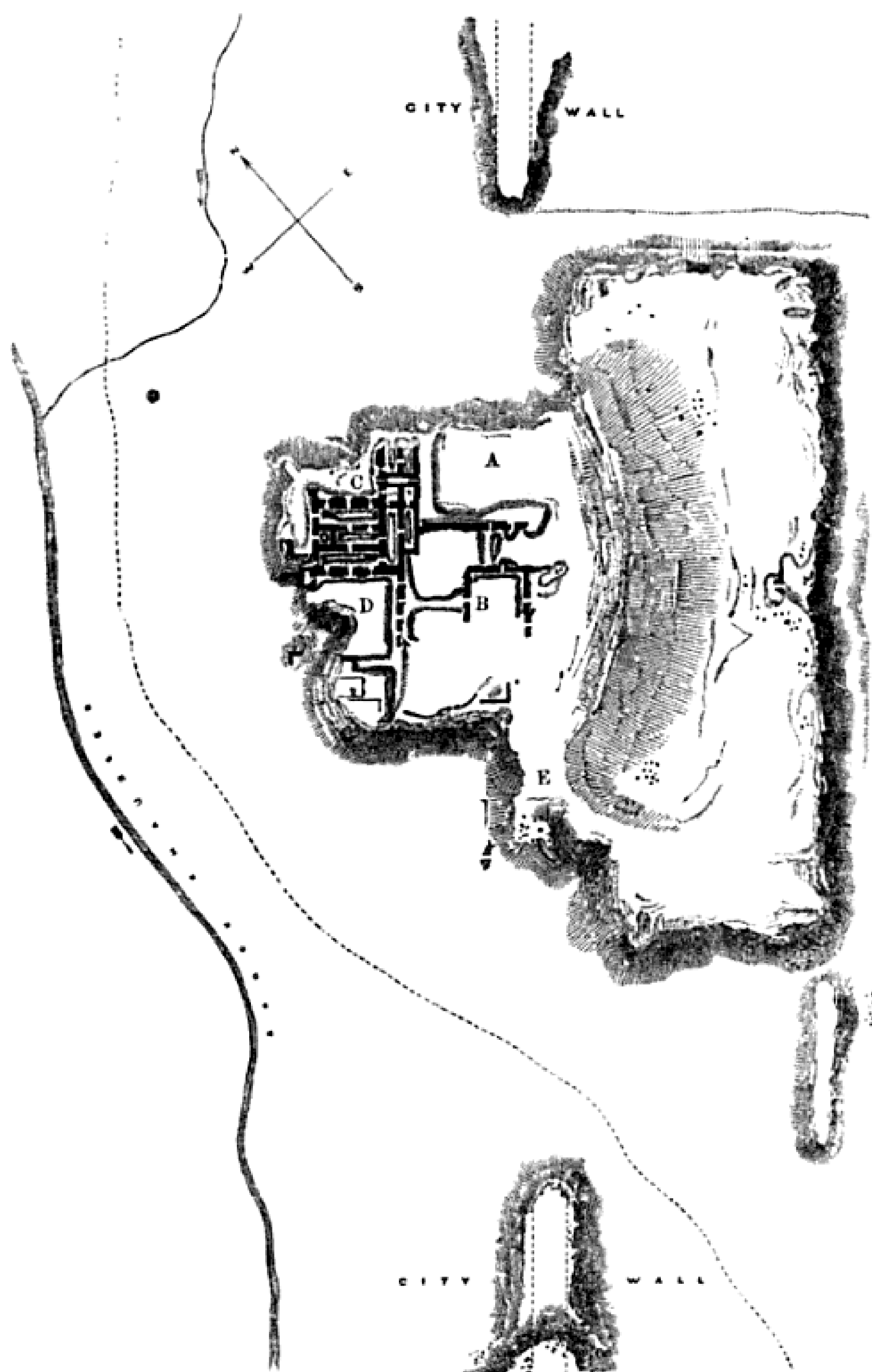
All these apartments were lined with sculptured slabs, representing mostly either the regal state of the sovereign, his prowess in war, or amusements during peace, but many of them wholly devoted to religious subjects. Beyond these apartments were many others, covering at least an equal extent of ground, but, their walls having been only plastered and painted, the sun-burnt bricks of which they were built have crumbled again to their original mud. It is evident, however, that they were inferior to those already described, both in form and size, and applied to inferior purposes.

The mound at Nimroud was so much extended after this palace was built, and so covered by subsequent buildings, that it is now impossible to ascertain either the extent or form of this, which is the only palace of the older dynasty known; and it will therefore perhaps be as well to turn at once to Khorsabad, which, being built wholly by one king, and not altered afterwards, will give a clearer idea of the position and arrangements of an Assyrian palace than we can obtain from this.

[1] This plan, with all the particulars here mentioned, are taken from Layard's work, which is the only authority on the subject, so that it is not necessary to refer to him on every point. The plan is reduced to the usual scale of 100 ft. to one inch, for easy comparison with Khorsabad and the Persepolitan and other edifices quoted.

KHORSABAD.

The city of Khorsabad was situated about 15 miles from Nineveh, in a northern direction, and was nearly square in plan, measuring about an English mile each way. Nearly in the centre of the north-western wall was a gap, in which was situated the mound on which the palace stood. It seems to have been a peculiarity common to all



110. Plan of Palace at Khorsabad. No scale.

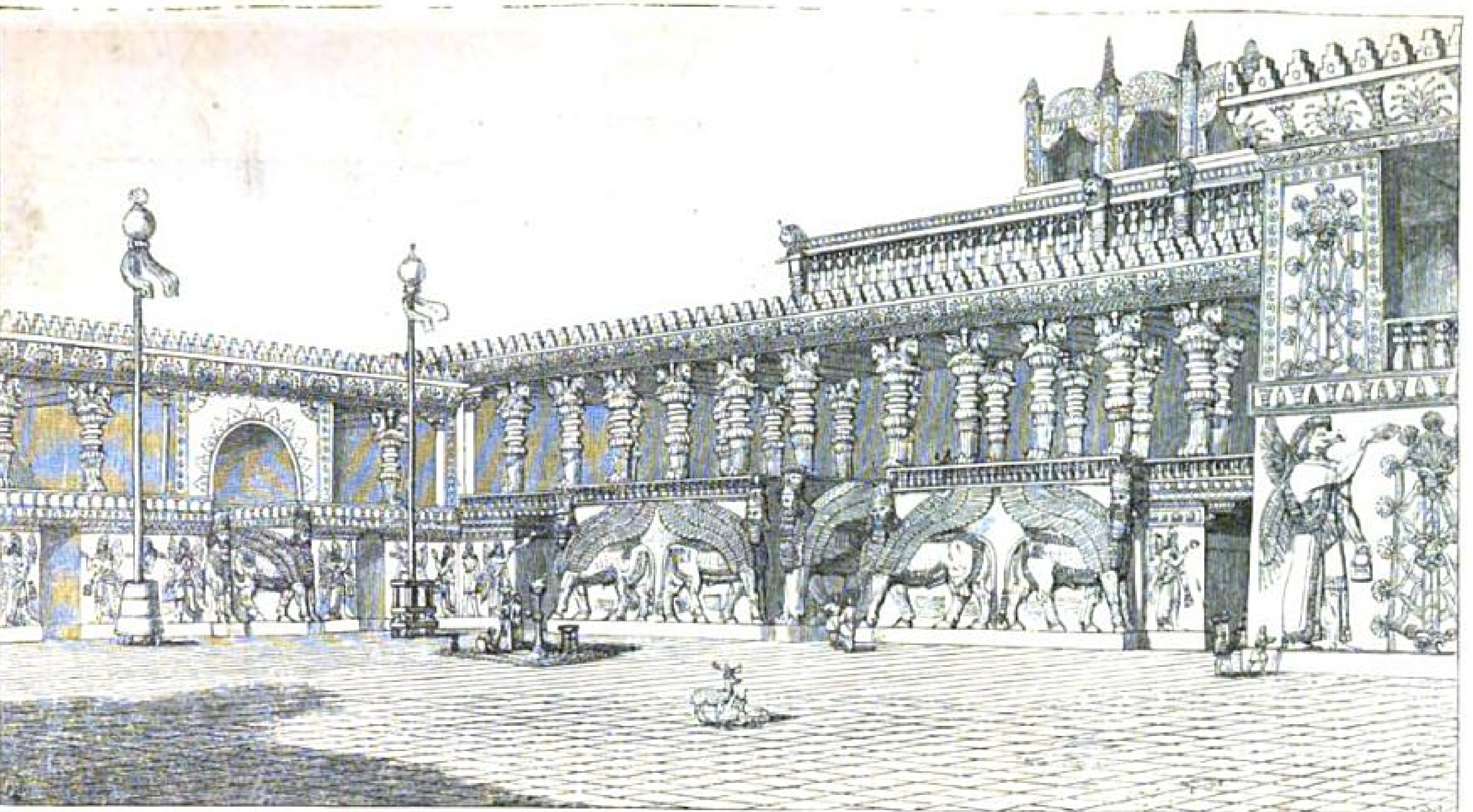
Assyrian palaces to be so situated. Their builders wisely objected to being surrounded on all sides by houses and walls, and at the same time sought the protection of a walled enclosure to cover the gateways and entrances to their palaces. At Koyunjik and Nimroud the outer face of the palace was covered and protected by the river Tigris, and here the small brook Kausser flows past the fort, and, though now an insignificant stream, it is by no means improbable that it was dammed up so as to form a lake in front of the palace when inhabited, which may have been further deepened by excavating from it the earth necessary to raise the mound on which the palace stood.

The mound in this instance was a square of about 650 ft. each way, raised about 30 ft. above the level of the plain, and protected on every side by a supporting wall cased with stone of very beautiful masonry. Behind this, and inside the city, was a lower mound, about 300 ft. in width, and 1300 or 1400 ft. in length, on which were situated the great portals of the palace, and the residences of the guards and inferior officers; and beyond even this, on the plain of the city, a set of interportals are found, from which the great winged bulls now in the British Museum were taken.

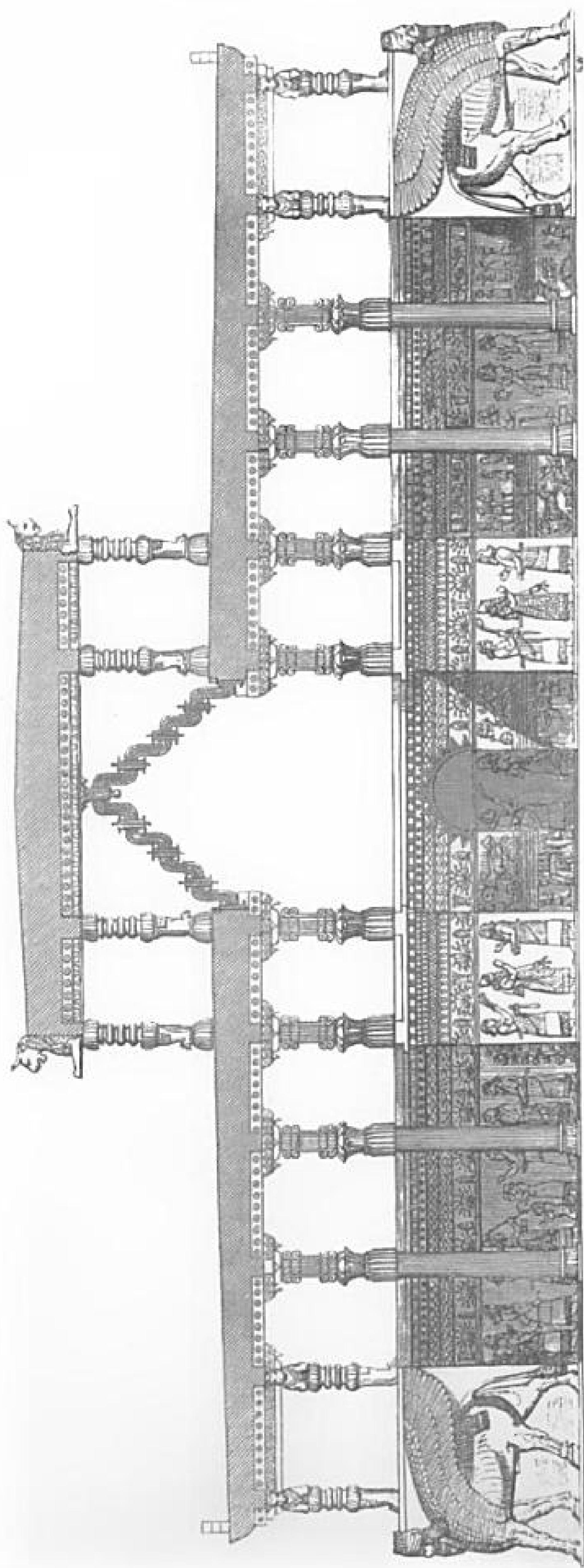
Passing these portals a flight of steps seems to have led up to the great outer court, marked A on the plan, on the south side of which was a magnificent set of portals leading into what was probably the hareem court (B) or private apartments of the palace. The public entrance appears to have been through a narrow arched passage between the two courts A and C, which led to the principal court of the palace (C). On two sides this was open to the country; the third was pierced with the entrance just described; the fourth was adorned with a splendid triple entrance leading to the principal suite of apartments of the palace. These consist of 4 great rooms, three placed side by side, the outer ones 116 ft. in length, and respectively 33 ft. and 29 ft. 8 in. in width, the central one being both shorter and narrower. At right angles to them is the fourth, overlooking the country, and within these, on the other hand, are two narrow apartments on the side of the hareem court. A line of openings leads through the three principal rooms, fronting which is situated one of the few buildings yet discovered in Assyria that can with any certainty be called a temple. It stands in a fourth court, marked D, one side of which is open to the country, the opposite side being occupied by several entrances, one of which leads direct into the hareem court (B), the others into smaller rooms, whose plans and uses cannot be satisfactorily made out owing to their not being revêted with slabs.

All those parts marked dark on the general plan, whether external or internal, are revêted with sculptural slabs of alábaster, generally about 9 ft. in height, which, like those at Nimroud, either represent the wars or the peaceful amusements of king Sargon, commemorate his magnificence, or express his religious feelings.

Above this the regular courses of the brickwork in the walls can even now be traced, generally to the height of 3 or 4 ft. more; but



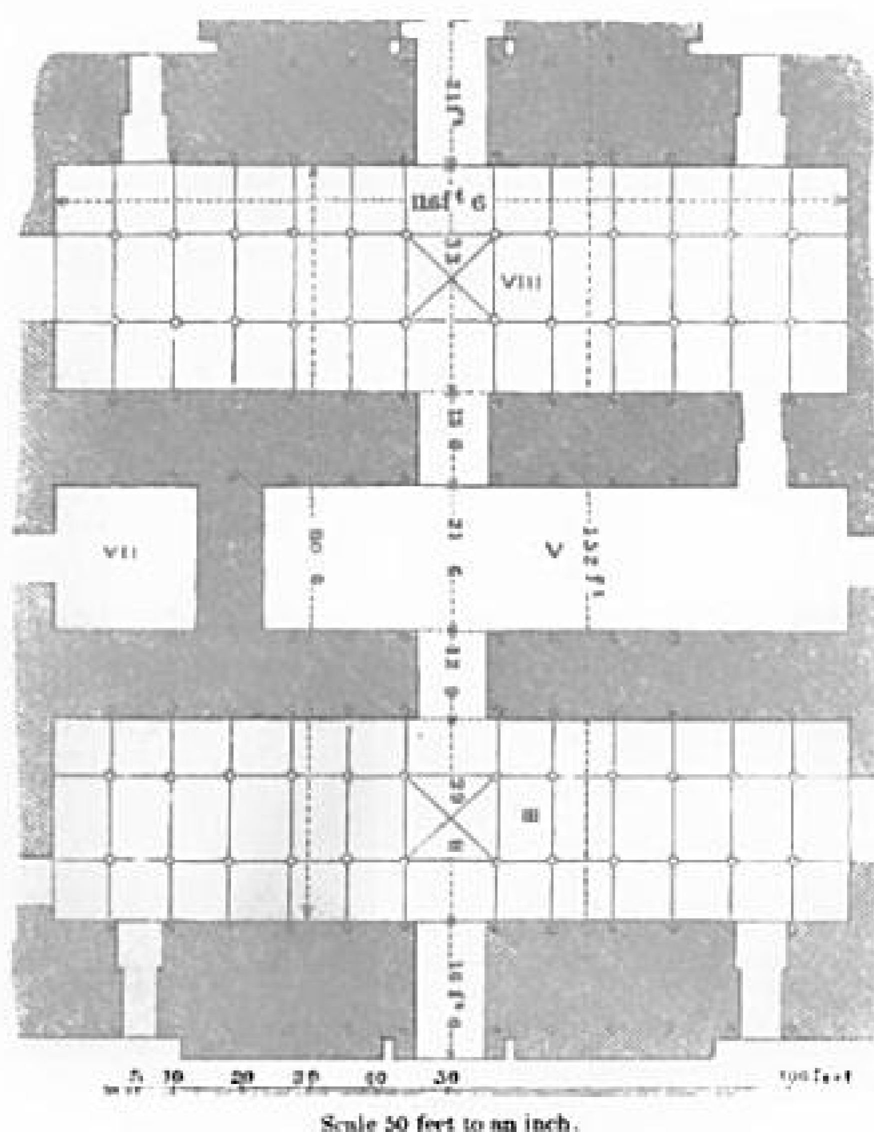
111. Restoration of Northern Angle of Palace Court, Khorsabad.



112. Section of principal Rooms at Khorsabad. 152 feet.

the size of the winged bulls in the portals, and other indications, prove that they must have been raised to a height of at least 16 or 18 ft.; and the number of painted bricks and traces of colour around their bases show that they were adorned with paintings, generally in conventional patterns, but of great brilliancy.

Above this we are left somewhat to conjecture. The whole superstructure was of wood, and has evidently in most of the palaces been destroyed by fire. The indications still left, however—the enormous thickness of the walls—the necessities of the climate—and, more than this, the existing remains at Persepolis, where much that is here in wood is repeated in stone—enable us to restore the upper part of the palace with considerable confidence. This restoration is shown in the two large woodcuts here given, the first of which (No. 111) represents the external appearance of the court (c), the other (No. 112) a section of the three principal rooms of the palace, of which a plan is given (woodcut No. 113).



113. Three principal Rooms at Khorsabad.

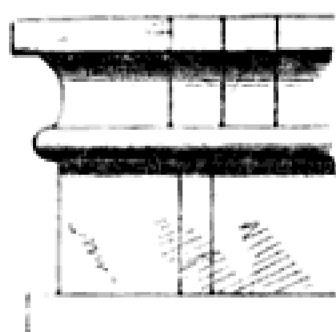
It will be observed that the area covered by the walls is of nearly the same extent as that of the rooms themselves, so that the galleries formed in fact an upper story to the palace; and thus, in the heat of the day, the thickness of the walls kept the inner apartments free from heat and glare, while in the evenings and mornings the galleries formed airy and light apartments, affording a view over the country, and open on every side to the breezes that at times blow so refreshingly over the plains. It will also be observed that by this arrangement the

direct rays of the sun could never penetrate into the halls themselves, and that rain, or even damp, could easily be excluded by means of curtains or screens.

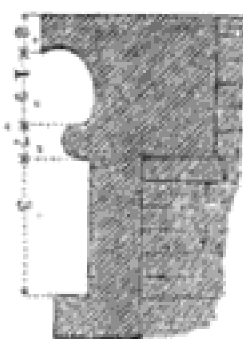
On the lower terrace another suite of apartments has been since excavated by M. Place, who succeeded M. Botta as French Consul at Mosul. These differ in many respects from anything hitherto discovered in Assyria. The walls are neither revêted with slabs, nor are pictures painted on the plaster: but they are ornamented by a series of alternate reedings, separated by pilasters with square sunk panels: the former looking like the stems of trees jammed closely together—the latter like deep coffers of squared timbers.

The details of these excavations have not yet been published, but the same mode of decoration has been found at Wurka in Southern Babylonia, at the Birs Nimroud, and other places, and offers a new style which will no doubt be further developed in future excavations. This mode of decoration at Khorsabad covers not only the walls of the rooms internally, but is repeated on the exterior on a larger scale. There are other peculiarities in the form and arrangement of these apartments, which will open a new view of Assyrian art when they are given to the public.

So little remains of the temple that it is difficult to say what its original form may have been; the terrace, however, which supported it is interesting as showing almost the only instance of a perfect Assyrian moulding or cornice, betraying a similarity to the forms of Egyptian architecture which we do not find anywhere else. The curve, however, is not exactly that of an Egyptian cornice, being continued beyond the vertical tangent; but this may have arisen from the terrace being only 6 ft. in height, and consequently the curve below the line of the eye, and thus requiring a different treatment from one placed so high above it as is usually the case in Egypt.



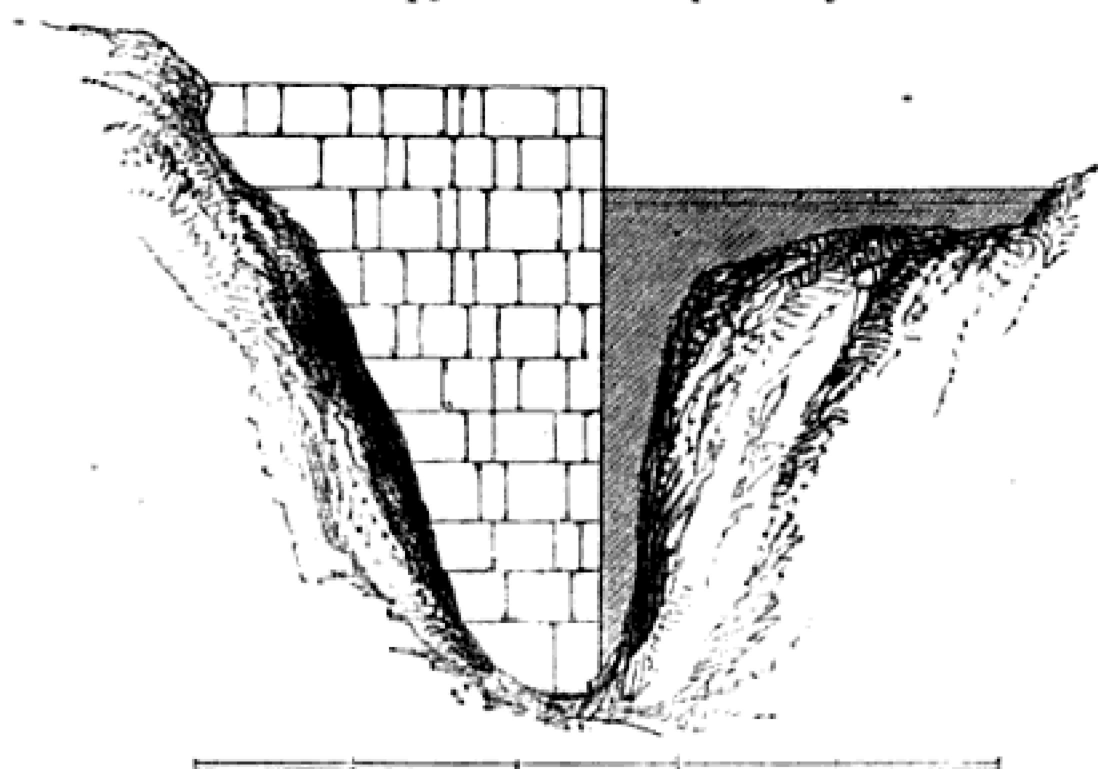
114. Elevation of Stylobate of Temple.



115. Section of Stylobate of Temple.

From the above description it will be observed that in every case the principal part, the great mass of the palace, was the terrace on which it stood, which was raised by artificial means to a height of 30 ft. and more, and, as shown in the annexed illustration, carefully revêted with stone. On this stood the palace, consisting principally of one great block of private apartments situated around an inner square court. From this central mass 2 or 3 suites of apartments projected as wings, so arranged as to be open to the air on 3 sides, and to give great variety to the outline of the palace as seen from below, and great play of light and shade in every aspect under which the building could be surveyed. So far also as we can judge, the whole arrangements were admirably adapted to the climate, and the ornaments not only elegant in themselves, but singularly expressive and appropriate to the situations in which they are found.

M. Place has recently excavated the huge mound at E, and found that it contained a 7-storied pyramidal temple very similar to the Birs



116. Terrace Wall at Khorsabad.

Nimroud, which will be described further on. Neither the details nor the dimensions of the building have yet been published.

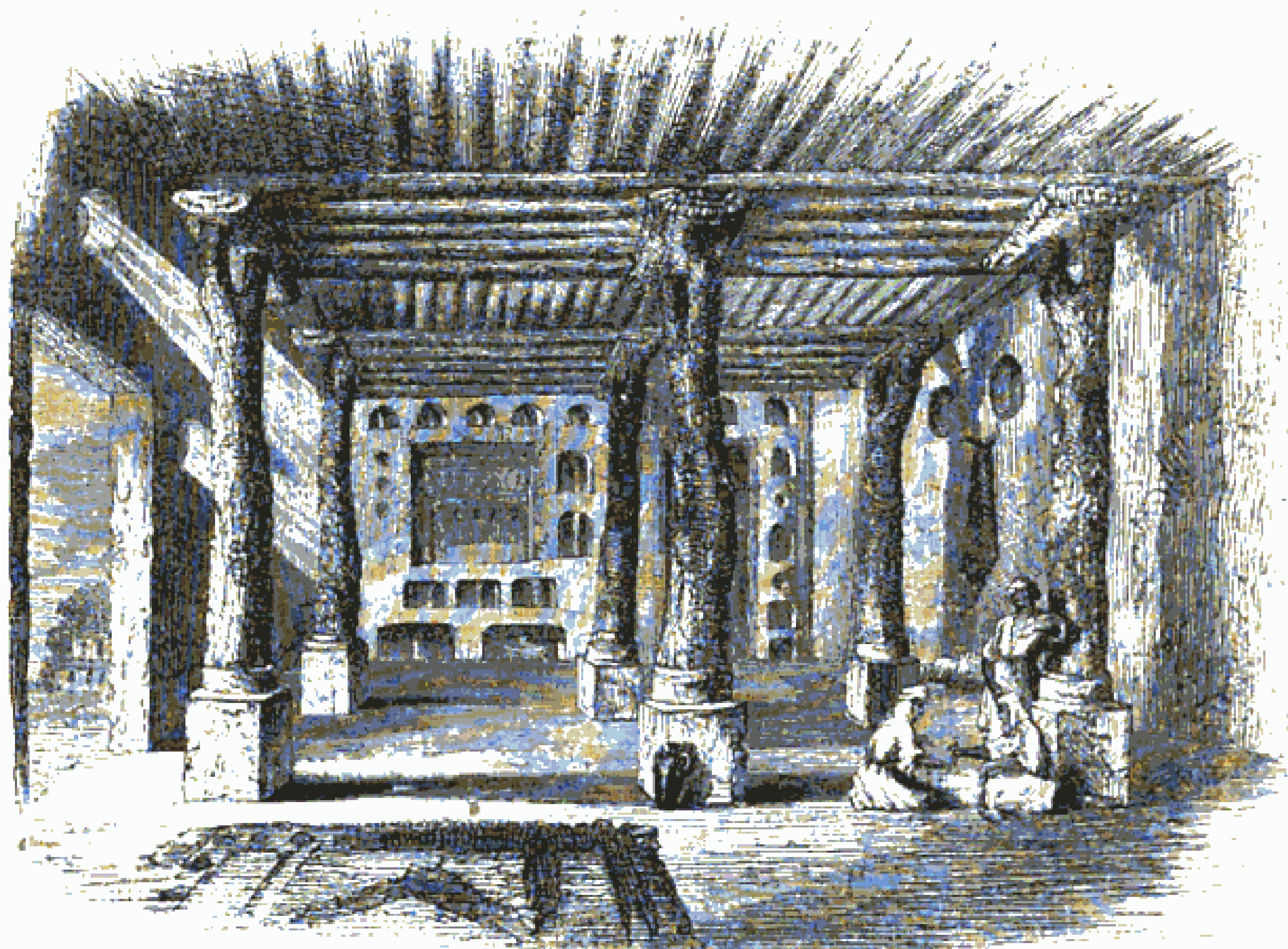
Another most important discovery of M. Place is that of the gates of the city. These were apparently always constructed in pairs—one devoted to foot-passengers, the other to wheeled carriages, as shown by the marks of wheels worn into the pavement in the one case, while it is perfectly smooth in the other.

Those appropriated to carriages had plain jambs rising perpendicularly 12 or 15 ft. These supported a semicircular arch, adorned on its face with an archivolt of great beauty, formed of blue enamelled bricks, with a pattern of figures and stars, of a warm yellow colour, relieved upon it.

The gateways for foot-passengers were nearly of the same dimensions, about 12 or 15 ft. broad, but they were ornamented by winged bulls with human heads, between which stood giants strangling lions. In this case the arch sprang directly from the backs of the bulls, and was ornamented by an archivolt similar to that over the carriage entrances.

Other arches have been found in these Assyrian excavations, but none of such extent as these, and none which show how completely the Assyrians in the time of Sargon understood not only the construction of the arch, but also its use as a decorative architectural feature.

There must always be many points, even in royal residences, which would be more easily understood if we knew the domestic manners and usages prevalent among the common people of the same era and country. This knowledge we actually can supply, in a great measure, in the present case, from modern Eastern residences. Such a mode of illustration in the West would be out of the question; but in the East manners and customs, processes of manufacture, and forms of building have existed unchanged from the earliest times to the present day. This immutability is the greatest charm of the East, and frequently



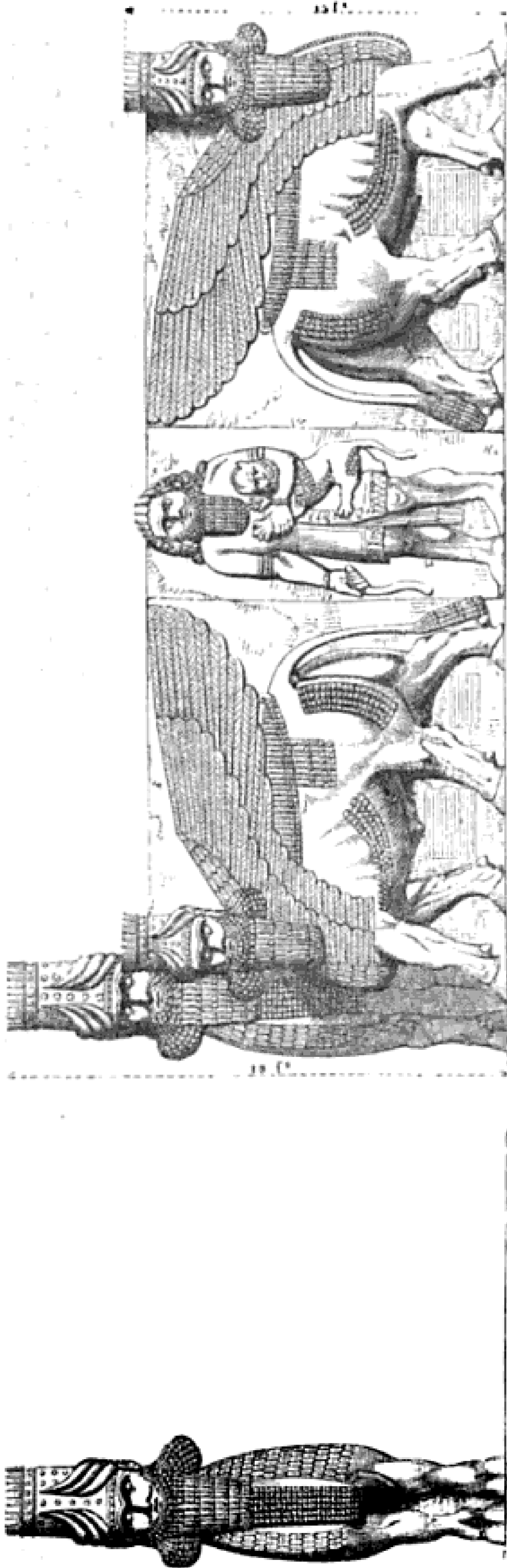
117. Interior of a Yezidi House at Bukra, in the Sinjar.

enables us to understand what in our own land would have utterly faded away and been obliterated. In the Yezidi House, for instance, borrowed from Mr. Layard's work, we see an exact reproduction, in every essential respect, of the style of building in the days of Sennacherib. Here we have the wooden pillars with bracket capitals, supporting a mass of timber intended to be covered with a mass of earth sufficient to prevent the rain or heat from penetrating to the dwelling. There is no reason to doubt that the houses of the humbler classes were exactly similar to what is here represented; and this very form amplified into a palace, and the walls and pillars ornamented and carved, would exactly correspond with the principal features of the palace of the great Assyrian king.

Palace of Sennacherib, Koyunjik.

Having said so much of Khorsabad, it will not be necessary to say much about the palace at Koyunjik, built by Sennacherib, the son of the Khorsabad king.

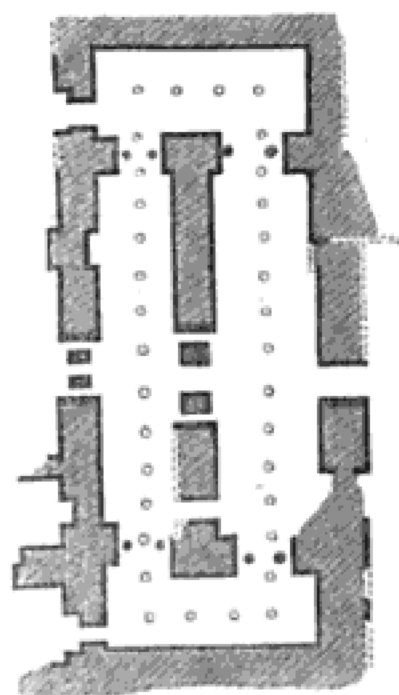
As the great metropolitan palace of Nineveh, it was of course of far greater extent and far more magnificent than the suburban palace of his father. The mound itself on which it stands is about 1½ mile in circumference (7800 ft.); and, as the whole was raised artificially to the height of not less than 30 ft., it is in itself a work of no mean magnitude.



115. Existing Remains of Propylæa at Khorsabad

The principal palace stood at the south-western angle of this mound, and as far as the excavation has been carried seems to have formed a square of about 600 ft. each way—double the lineal dimensions of that at Nimroud. Its general arrangements were very similar to those at Khorsabad. It enclosed within itself two or three great internal courts, surrounded by 60 or 70 apartments, some of great extent. The principal façade, facing the east, far surpassed any of those of Khorsabad, both in size and magnificence, being adorned by 10 winged bulls of the largest dimensions, with two giants between the two principal external ones, in the manner shown in the annexed woodcut (No. 118), besides smaller sculptures—the whole extending to a length of not less than 350 ft. Inside this great portal was a hall, 180 ft. in length by 40 in width, with a recess at each end, and through it access was had to two court-yards, one on the right and one on the left; and beyond these to the other and apparently the more private apartments of the palace, overlooking the country and the river Tigris, which flowed to the westward of the palace—the principal entrance, as at Khorsabad, being from the city.

It is impossible, of course, to say how much further the palace extended, though it is probable that nearly all the apartments which were revêted with sculptures have been laid open; but what has been excavated occupies so small a portion of the mound that it is impossible to escape the conviction that it forms only a very small fraction of the imperial palace of Nineveh. Judging even from what has been uncovered, it is, of all the buildings of antiquity, surpassed in magnitude only by the great palace-temple at Karnac; and, when we consider the vastness of the mound on which it is raised, and the richness of the ornaments with which it was adorned, it is by no means clear that it was not as great, or at least as expensive, a work as the great palace-temple of Thebes. The latter, however, was built with far higher motives, and designed to last through ages, while the palace at Nineveh was built only to gratify the barbaric pride of a wealthy and sensual monarch, and perished with the ephemeral dynasty to which he belonged.


Scale 100 ft. to 1 inch.

119. Hall of South-West Palace.

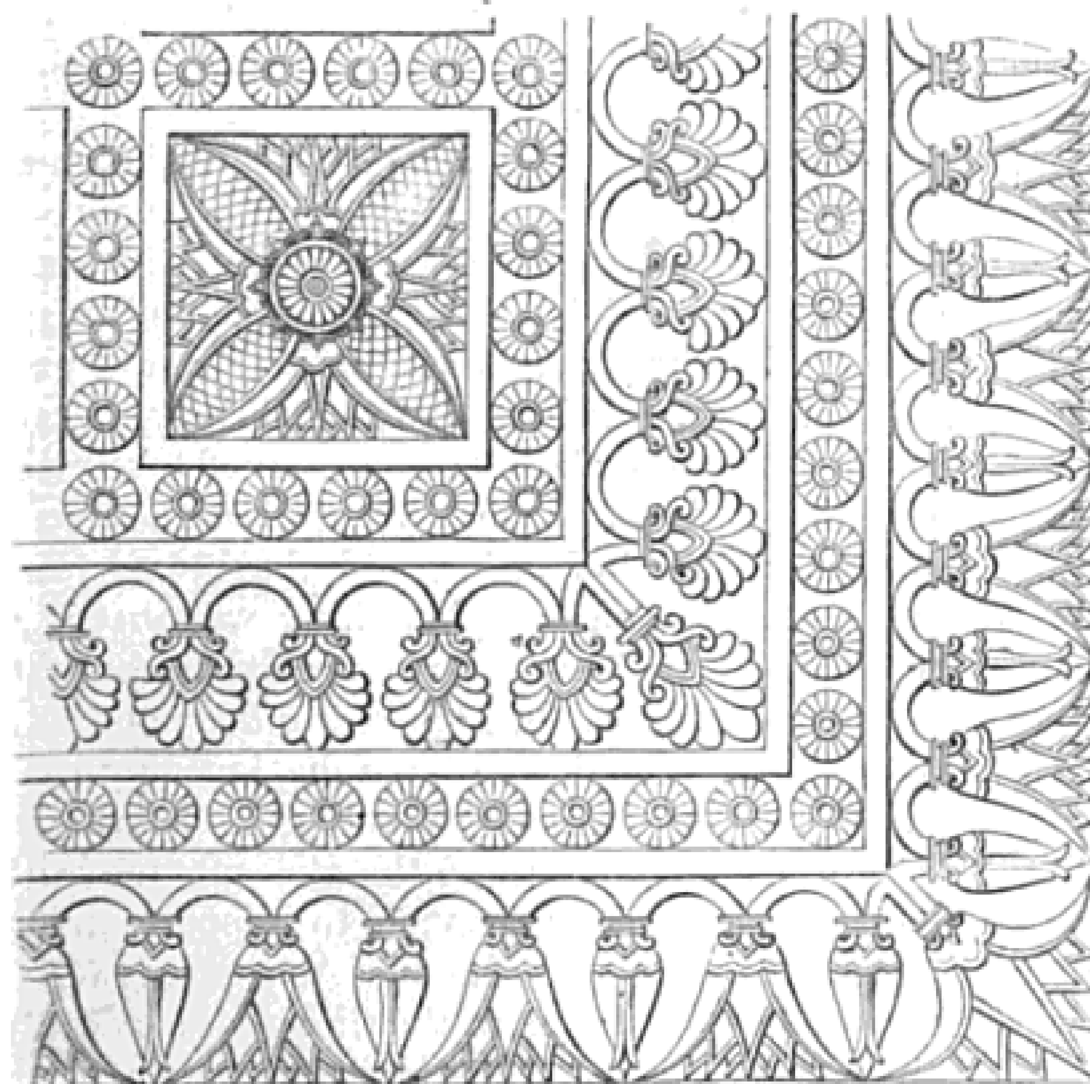
Palace of Esarhaddon.

Another Assyrian palace, of which considerable remains still exist, is that of Esarhaddon, commonly known as the South-west palace at Nimroud. Like the others, this too has been destroyed by fire, and the only part that remains sufficiently entire to be described is the entrance or southern hall. Its general dimensions are 165 ft. in length by 62 ft. in width, and it consequently is the largest hall yet found in Assyria. The architects, however, do not seem to have been quite equal to roofing so large a space even with the number of pillars with which they seem usually to have crowded their floors; and it is

consequently divided down the centre by a wall supporting dwarf columns, forming a centre gallery, to which access was had by bridge galleries at both ends, a mode of arrangement capable of great variety and picturesqueness of effect, and of which I have little doubt that the builders availed themselves to the fullest extent. This led into a court-yard of considerable dimensions, surrounded by apartments, all which are too much destroyed by fire to be intelligible.

Another great palace, built, as appears from the inscriptions, by a son of Esarhaddon, has been discovered nearly in the centre of the mound at Koyunjik. Its terrace-wall has been explored for nearly 300 ft. in two directions from the angle near which the principal entrance is placed. This is on a level 20 ft. lower than the palace itself, which is reached by an inclined passage nearly 200 ft. in length, adorned with sculpture on both sides. The palace itself, as far as has been explored, is similar in its arrangements to those already described; but the sculptures with which it is adorned are more minute and delicate, and show a more perfect imitation of nature, than the earlier examples, though inferior to them in grandeur of conception and breadth of design.

The architectural details also display a degree of elegance and an amount of elaborate finish not usually found in the earlier examples, as is well illustrated by the woodcut No. 120, representing one of the pavement slabs of the palace. It is of the same design, the ornaments are the same, as the earlier examples, but the finish is better, and the



120 Pavement Slab from the Central Palace, Koyunjik.

whole design more elaborate, than in any of the more ancient examples we are acquainted with.

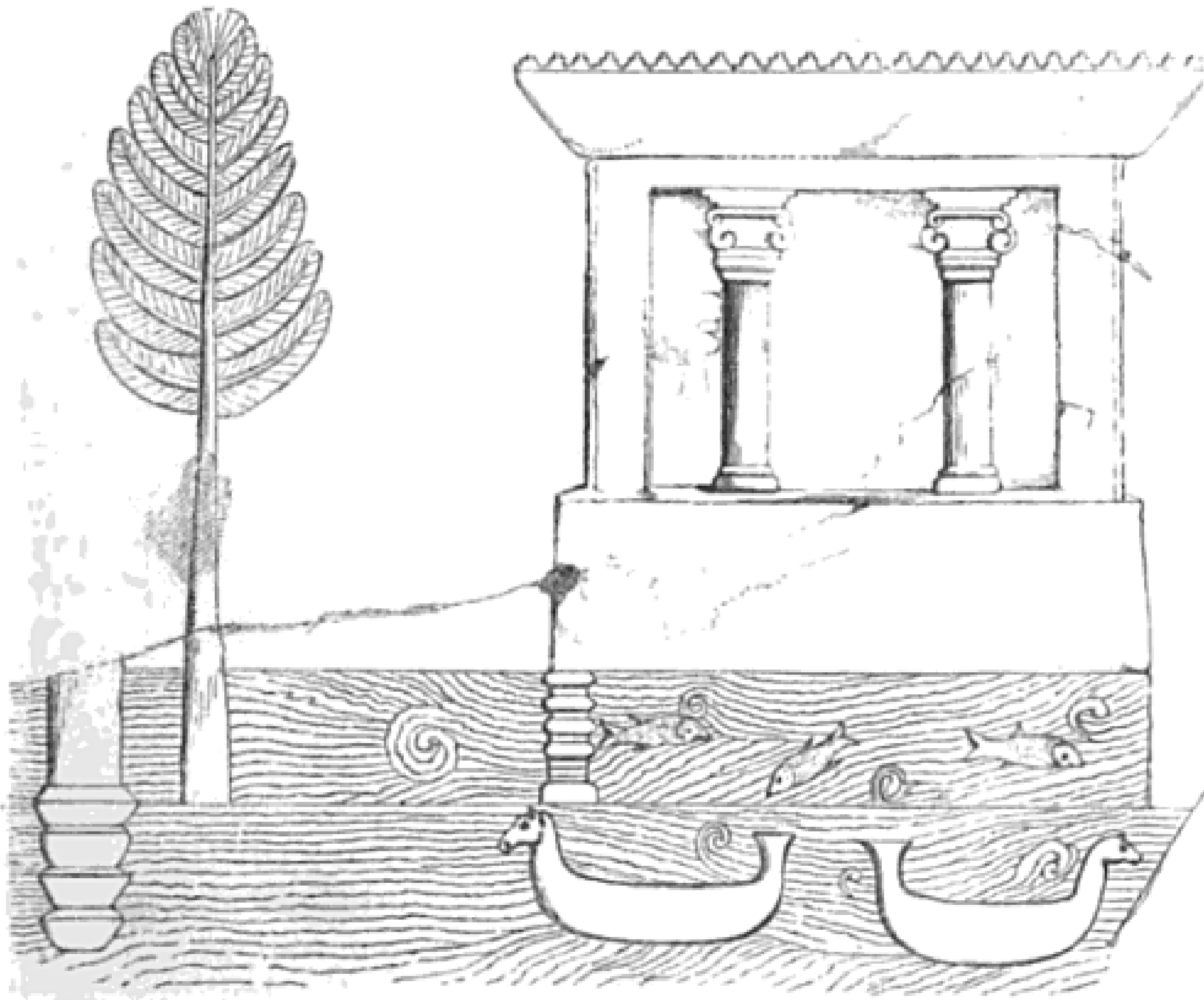
Besides these, there were on the mound at Nimroud a central palace built by Tiglath Pileser, and one at the south-eastern angle of the mound, built by a grandson of Esarhaddon, but both too much ruined for any one now to be able to trace either their form or extent; and around the great Pyramid, at the north-west angle, were buildings more like temples than anything else on the mound—all their sculptures apparently pointing to devotional purposes, though their forms are very much the same as those of the palaces, and there certainly is nothing in them to indicate that the mound at whose base they were situated was appropriated to the dead, or to funereal purposes. Between the north-west and south-west palaces also was raised a terrace higher than the rest, on which were situated some chambers whose use it is not easy to determine.

Notwithstanding this impossibility of making out all the details of the buildings situated on the great mounds of Nimroud and Koyunjik, these great groups of buildings must have ranked among the most splendid monuments of antiquity, surrounded as they were by stone-faced terraces, approached on every side by noble flights of stairs, and surmounted by great palaces, with towers and temples, and other buildings, of which only the most indistinct traces now remain. When all this was seen gay with colour, and crowded with all the state and splendour of an eastern monarch, it must have formed a scene of such dazzling magnificence that one can easily comprehend how the inhabitants of the little cities of Greece were betrayed into such extravagant hyperbole when speaking of the size and splendour of the great cities of Assyria.

The worst feature of all this splendour was its ephemeral character—though perhaps it is owing to this very fact that we now know so much about it—like the reed that bends to the storm and recovers its elasticity, while the oak is snapped by its violence. Had these buildings been constructed like those of the Egyptians, their remains would probably have been applied to other purposes long ago; but having been overwhelmed so early and forgotten, they have been preserved to our day, and it is not difficult to see how this was done. The pillars that supported the roof being of wood, probably of cedar, and the beams on under side of the roof being of the same material, nothing was so easy as to set fire to them. The fall of the roofs, which were probably composed, as at the present day, of 5 or 6 ft. of earth, required to keep out the heat as well as the wet, would alone suffice to bury the building up to the height of the sculptures. The gradual crumbling of the thick walls consequent on their unprotected exposure to the atmosphere would add 3 or 4 ft. to this; so that it is hardly too much to suppose that green grass might have been growing over the buried palaces of Nineveh before two or three years had elapsed from the time of their destruction and desertion. When once this had taken place, the mounds were far too tempting positions not to be speedily occupied by the villages of the natives; and a few centuries of mud-hut building would complete

the process of entombment so completely as to protect the hidden remains perfectly for the many centuries during which they have lain buried, and to enable us now to restore their form almost as certainly as we can those of the temples of Greece or Rome, or of any of the great nations of antiquity.

It is by no means improbable that at some future period we may be able to restore much that is now unintelligible, from the representations of buildings on the sculptures, and to complete our account of their style of architecture from illustrations drawn by the Assyrians themselves. One or two of these have already been published. The annexed woodcut, for instance (No. 121), of a sculptured view of a little fishing

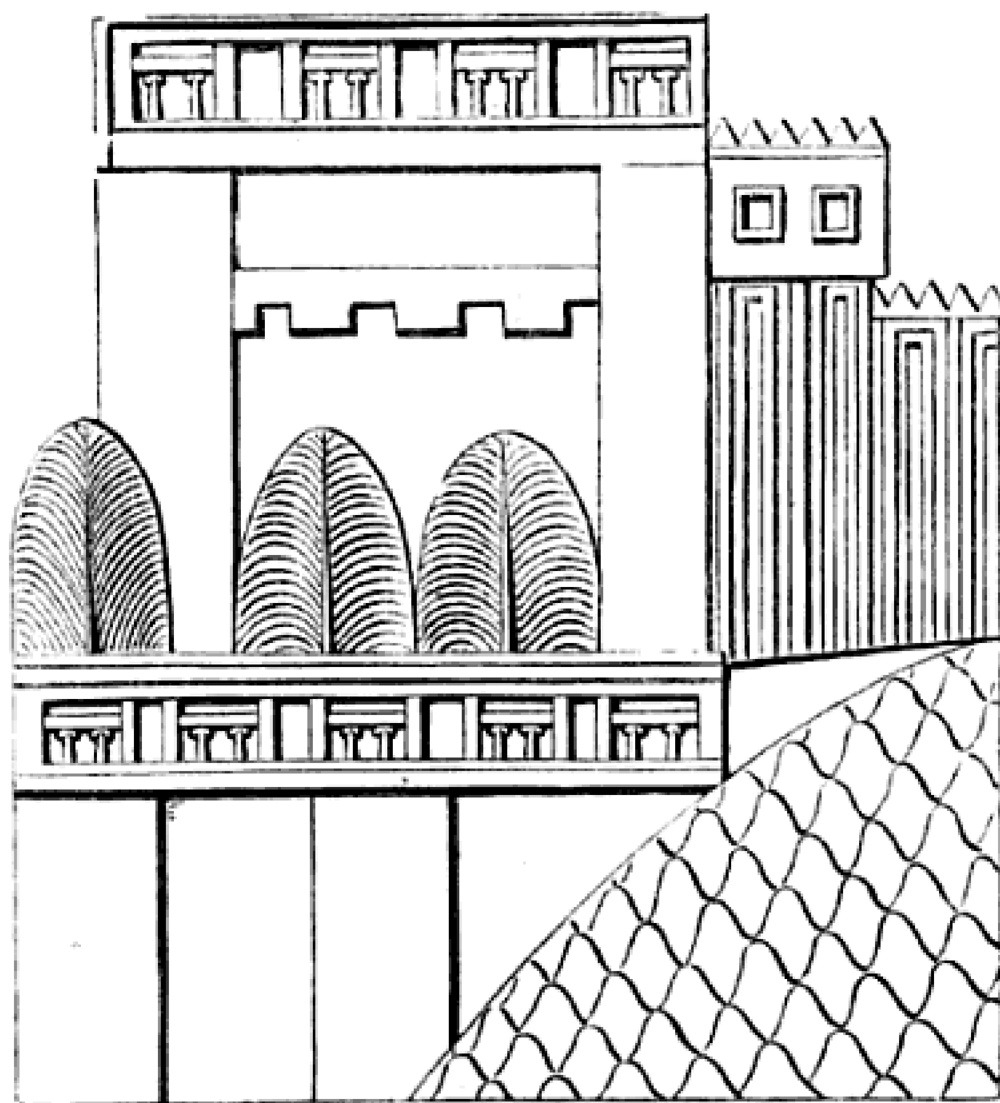


121. Pavilion from the sculptures at Khorsabad.

pavilion on the water's edge, exhibits in a rude manner all the parts of an Assyrian order with its entablature, and the capital only requires to be slightly elongated to make it similar to those found at Persepolis.

Another curious representation (woodcut No. 122) is that of a palace of two stories, from a bas-relief at Koyunjik, showing a range of openings under the roof in both stories, divided into three parts by two Ionic columns between square piers, probably meant to represent such an arrangement as that shown in woodcut No. 111, while the part on the right is a correct representation of the panelled style of ornamentation recently discovered at Khorsabad and elsewhere. Further comparisons will no doubt do much to complete the subject; and when the names written over them are definitively deciphered, we may find that we really possess contemporary representations of Jerusalem, of Samaria,

of Van, and other cities familiar to us both from ancient and from modern history.



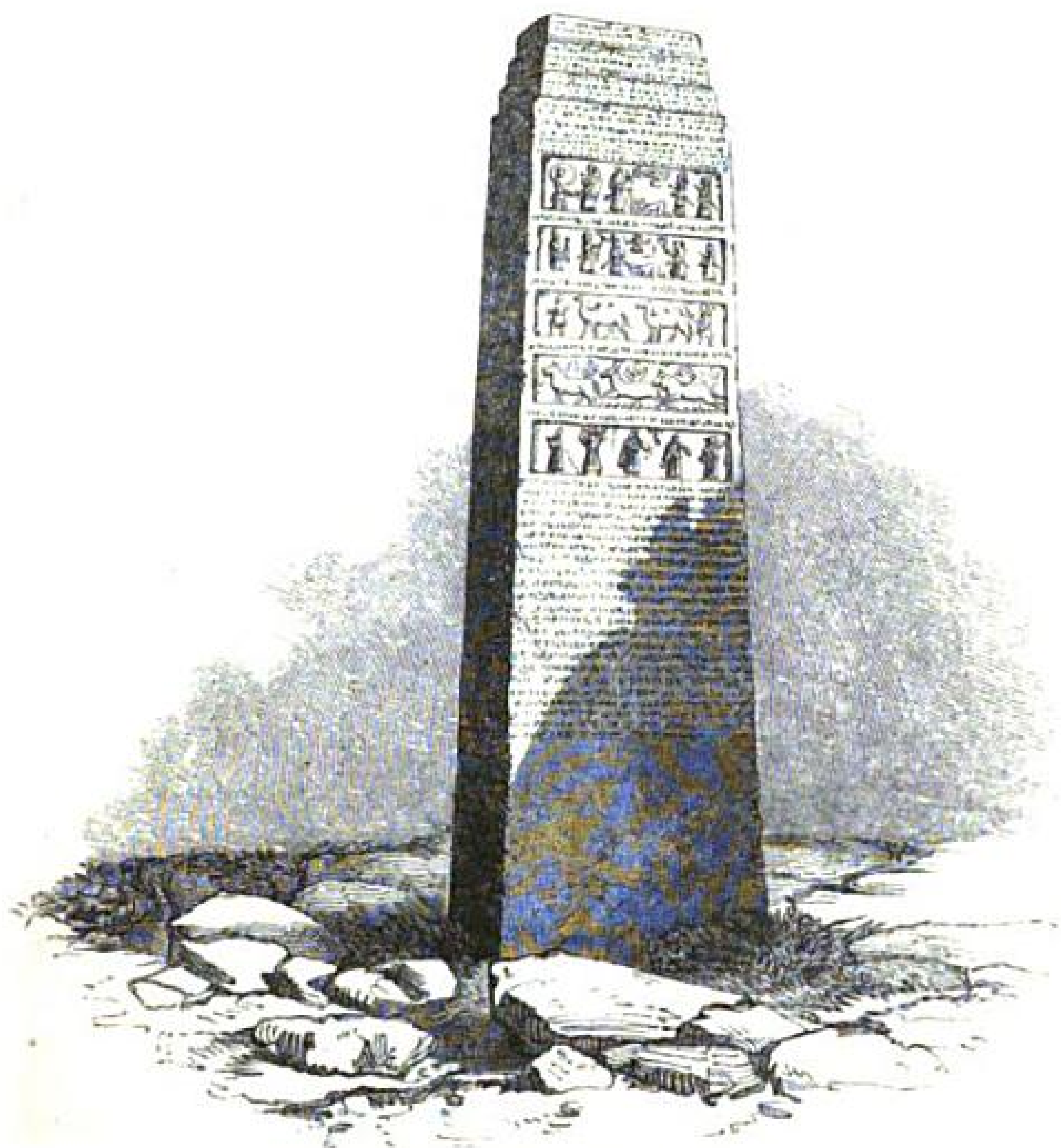
122. Exterior of a Palace, from a Bas-relief at Koyunjik.

The Pyramid at Nimroud yet remains to be mentioned. It stands at the north-west angle of the mound, and measures 167 ft. each way; its base, 30 ft. in height, is composed of beautiful stone masonry, ornamented by buttresses and offsets, above which the wall was continued perpendicularly in brickwork. In the centre of the building, on the level of the base or terrace, a long vaulted gallery or tunnel was discovered, but it contained no clue to the destination of the building.

The whole now rises to a height of about 120 ft. from the plain, and is composed of sun-dried bricks, with courses of kiln-burnt bricks between at certain distances near the summit, which render it probable that it originally was not a pyramid in the usual sense of the term, but a square tower, rising in three or four stories, each less than the lower one, as in the traditional temple of Belus at Babylon, or as the summit of the obelisk represented in the woodcut (No. 123), which most probably is a monolithic reproduction of such a temple or tower as this, rather than an obelisk like those of Egypt.

The excavations at the Birs Nimroud, and the discovery of a similar seven-storied temple at Khorsabad, leave little doubt that this tower was also a temple, though it is not clear in how many stories, or to whom it was dedicated.

Other obelisks have since been discovered, some of which look even more like miniature models of temples than this one does.



123. Obelisk of Divanubara. From Layard's Nineveh.

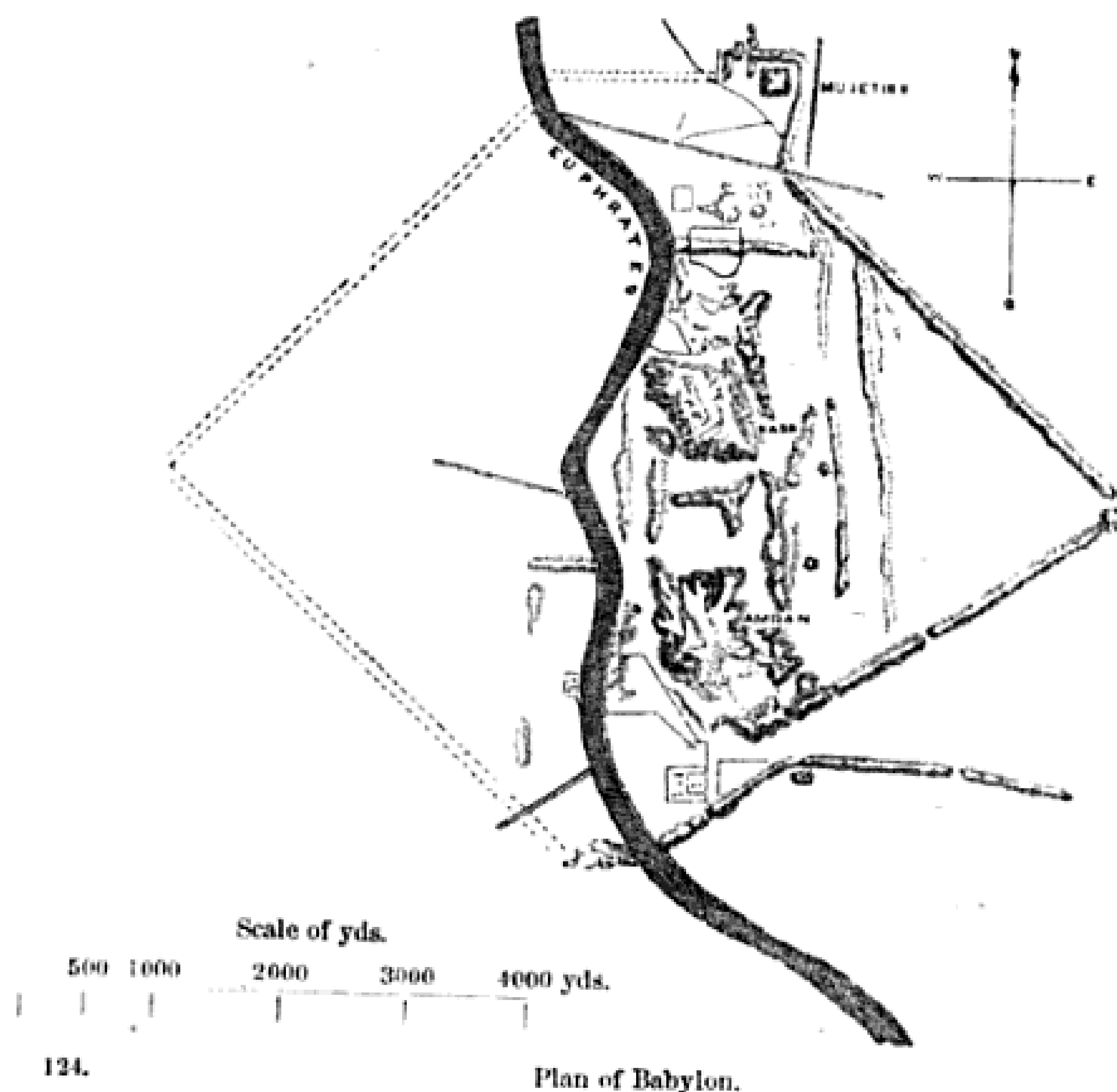
BABYLONIA.

The knowledge which we now possess of the remains in Assyria furnishes an explanation why all researches at Babylon have hitherto been in vain. In the former country, wherever we get beyond the limits of the sculptured slabs, all is one mass of formless mud, in which it is impossible to distinguish what were chambers, what walls, or indeed to be sure that it was a habitable building at all; and as in Babylonia no trace has yet been found of these slabs ever having been used, it is easy to understand how all the excavations hitherto made have been so fruitless in results.

Still the mound called Mujelibè is just such a one as those that support the palaces on the Upper Tigris, and situated like them in a break in the city walls. The mounds known as the Kasr, and that of Amran, in like manner most probably supported the palaces which excited the wonder of the Greeks; but as not one stone has been found, or any harder material than the usual sun-dried bricks of the country,

it is not to be wondered at that they have so completely lost their original form as to be perfectly unintelligible, except from the analogy derived from those of Nineveh.

More careful explorations and measurements may enable the topographer to determine the sites of many buildings whose names are known only from history; and much useful information may yet be thus obtained; but I fear little of an architectural character can now be hoped for among any of the mounds of the ruined city of Babylon.



124. Plan of Babylon.

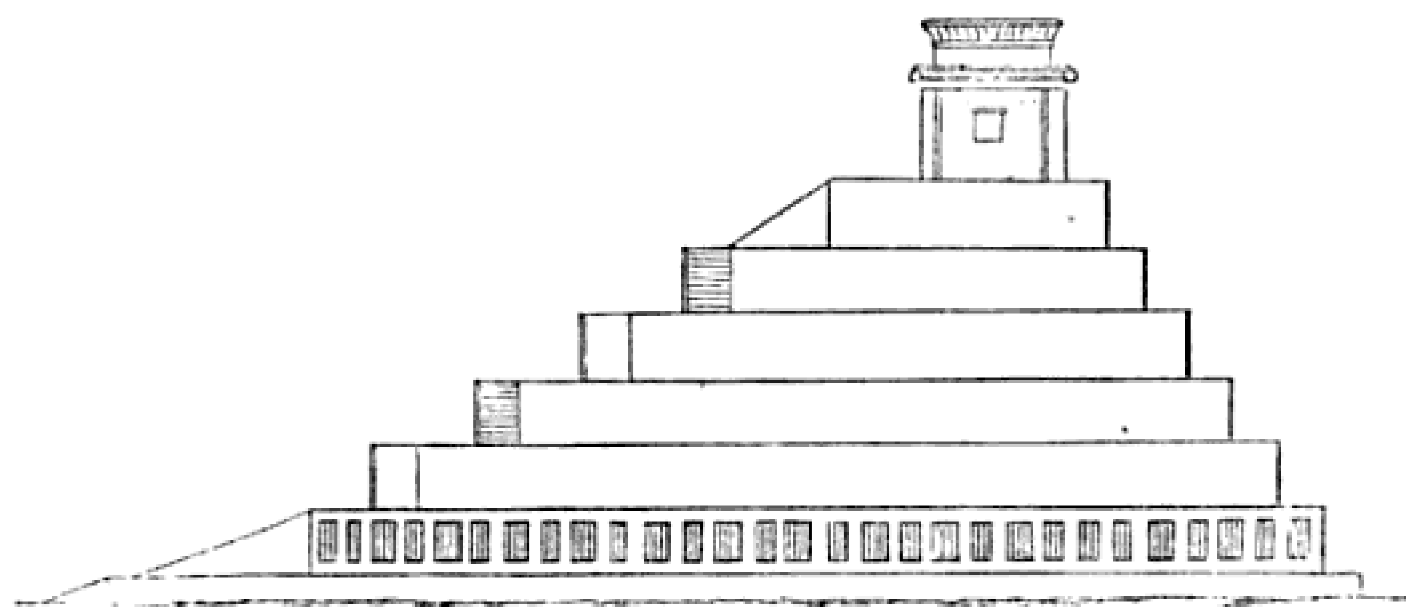
A few miles to the south-west of Babylon stands a great mound now known as the Birs Nimroud. This has recently been explored by Colonel Rawlinson, and from the inscriptions found among the ruins it is ascertained to be the remains of the Temple of the Seven Spheres at Borsippa.

It consists, as is shown in the woodcuts (Nos. 125 and 126), of an extensive basement, about 6 ft. in height, on which stands a pyramid of 6 stories, averaging somewhat less than 20 ft. each in height, and every story 42 ft. less in horizontal dimensions than the one below it.

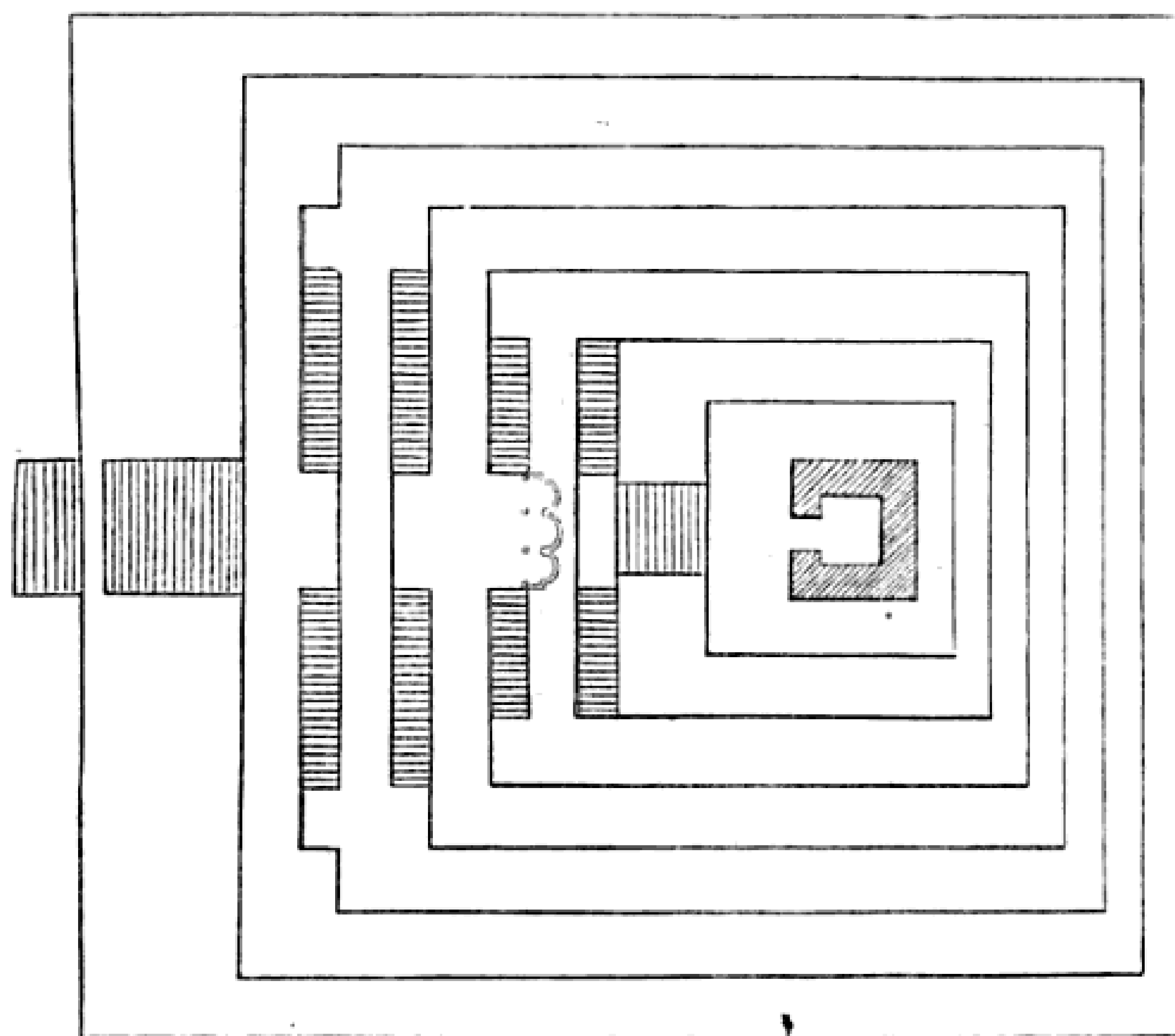
They are not placed concentrically one upon the other. Towards the front the platforms are 30 ft. in extent, and consequently are 12 ft. in the rear. On the sides they are equal, 21 ft. each.

On the upper platform now stands the fragment of a tower about 30 ft. in height, which once enclosed a chamber—the sanctum of the temple—following the analogy of the temple of Belus, as described by the Greeks, which the building resembles in almost every par-

ticular. There probably was also a shrine or image on the third platform. In front were the steps that led to the summit. The lower story was black, the colour of Saturn, and panelled like the new building discovered at Khorsabad; the next orange, the colour of Jupiter; the third red, emblematic of Mars; the fourth yellow, belong-



125. Restored Elevation of the Birs Nimroud. Scale 100 ft. to 1 in.



126. Restored Plan of the Birs Nimroud. Scale 100 ft. to 1 in.

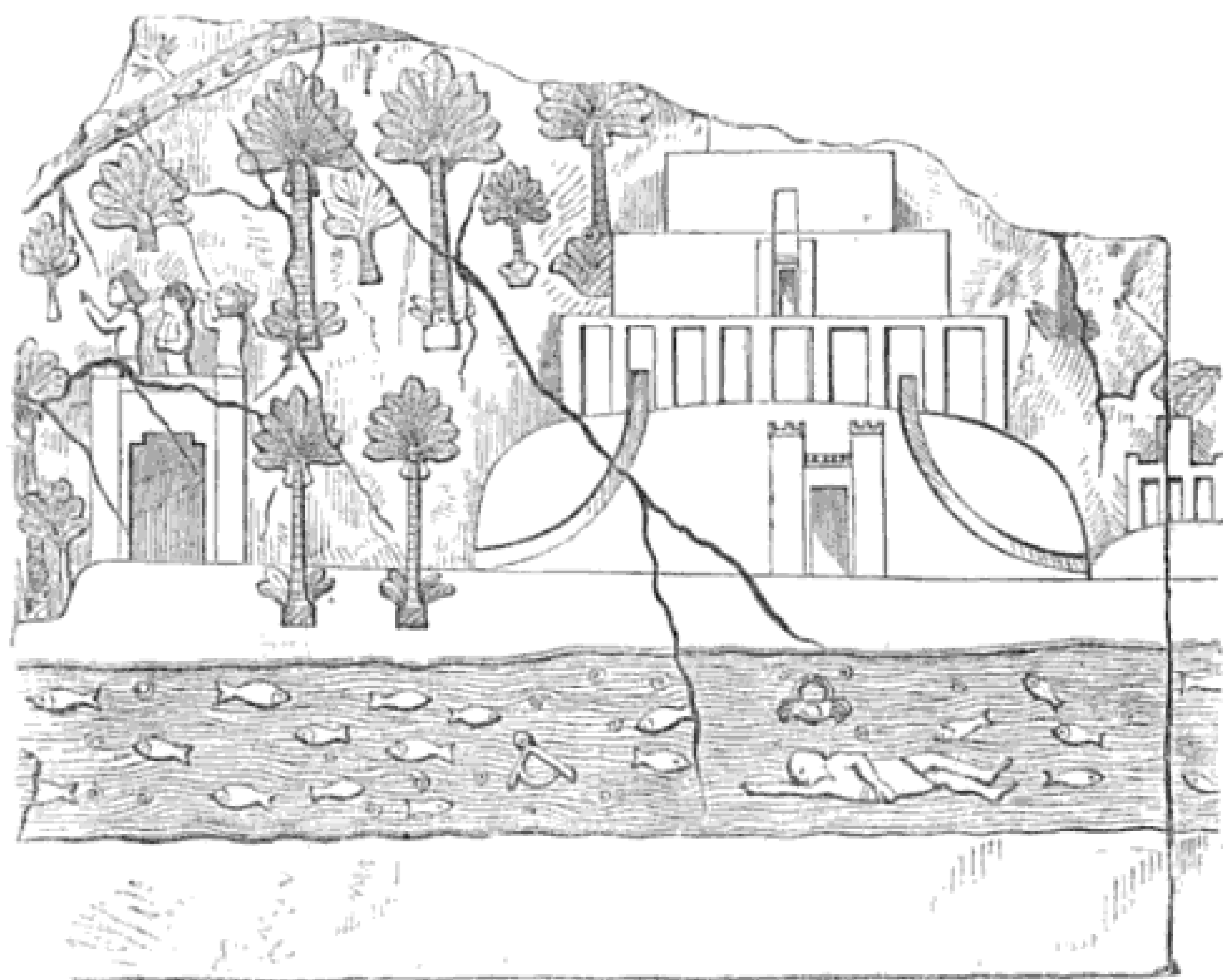
ing to the Sun; the fifth and sixth green and blue respectively, as dedicated to Venus and Mercury; the upper probably white, that being the colour belonging to the Moon, whose place in the Chaldean system would be the uppermost.

These peculiarities confirm so completely the Greek descriptions of the temple of Belus, and of the seven coloured walls of Ecbatana, that we may feel confident of having a nearly perfect restoration of at least one of the principal forms of Babylonian temples.

The inscriptions of Nebuchadnezzar mention, besides this temple at Borsippa, several others, which he considered as more important. As all traces of these, however, are lost, it is probable that they were of a different form, perhaps more like the temples of Egypt or Greece, but constructed of more perishable materials. If of the same pyramidal form as this, such great masses could hardly have disappeared.

Another small temple of the same form, but only three stories in height, has been discovered at Mugheyr, in Southern Babylonia. It is principally interesting as confirming in every respect what has been said of the form and plan of that of Borsippa, which, though explored to a considerable extent by Colonel Rawlinson, has not been so completely excavated as to render all the details absolutely certain without confirmation from other quarters.

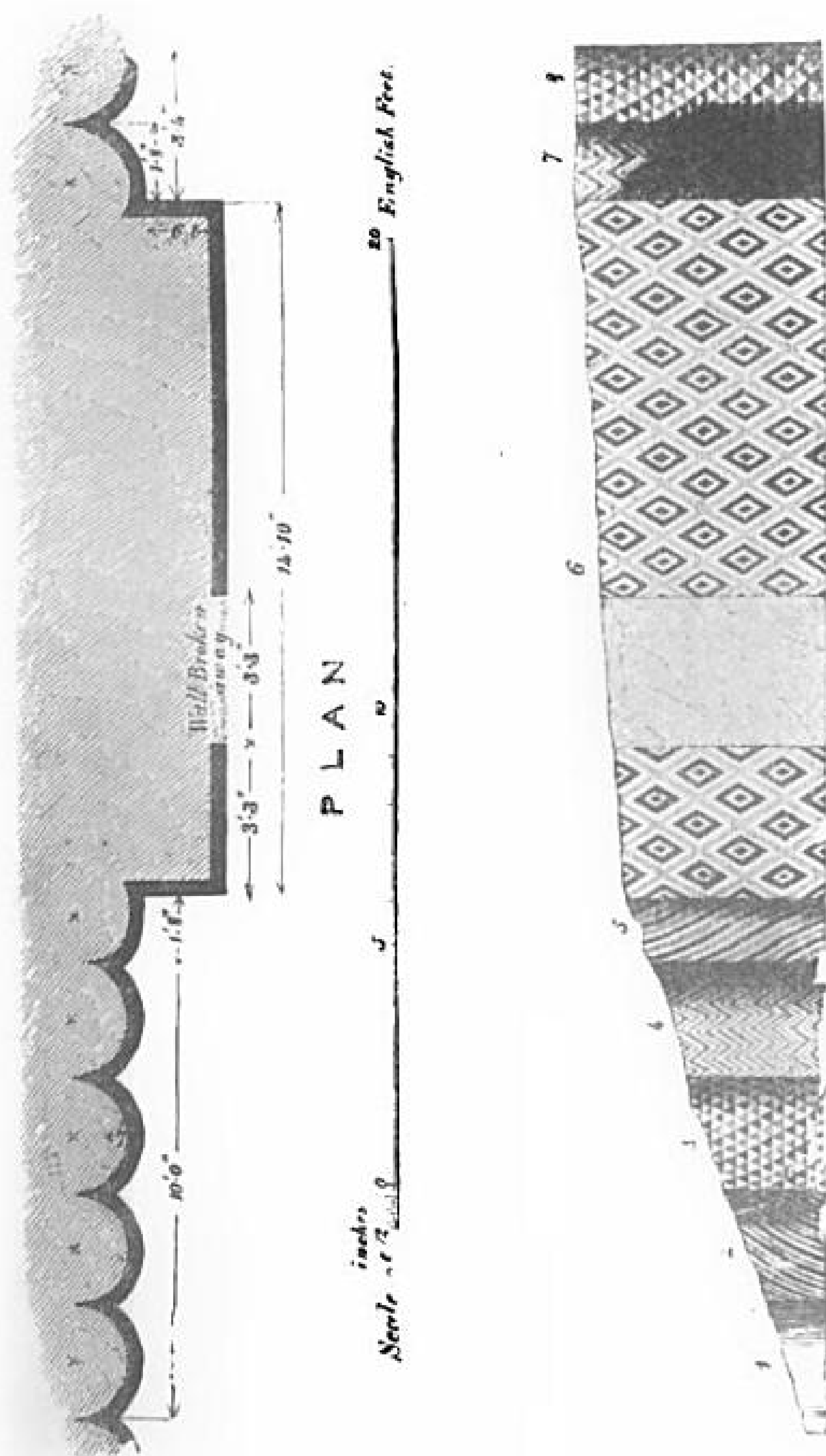
Contemporaneous with these discoveries is that of a bas-relief woodcut No. 127) of a temple rising in diminishing stages, which,



127. Representation of a Temple. From a Bas-relief from Koyunjik.

though the upper story is destroyed, curiously illustrates this subject. The temple itself seems to stand on an artificial mound. The base is panelled; a niche is shown on the upper platform; and it has all the peculiarities which have been alluded to in those temples we have just been describing.

These details enable us to realise to some extent what we learn from the Greeks of the great city of Babylon. It is certainly to be regretted that they are not more complete, for, though it is scarcely probable that the edifices of Babylon, as rebuilt by Nebuchadnezzar, were either more extensive or more beautiful than those of Nineveh, still it is the city best known from the descriptions of the Greeks and of the sacred writings, so that we could more easily test the knowledge acquired from the excavations. Babylon was also the capital of the empire contemporary with Persepolis and Passargadæ, and thus her palaces formed the link that would enable us to connect, in a satisfactory manner, the edifices and architecture of Assyria with those of Persia.



128. Elevation of Wall at Wurka. From the Report of the Assyrian Excavation Fund.

Knowing as we now do, from the inscriptions on the bricks, that none of the buildings now existing in or about Babylon are older than the reign of Nebuchadnezzar, it is evident that they never could have possessed either the historical or æsthetic value of the long series of bas-reliefs which adorned the palaces of the upper valley of the Tigris; and although we may regret having recovered so little of the famous city of Babylon, we may rest assured that by far the most valuable portion of the antiquities of Assyria is that which has already been exhumed in the Northern province.

The only other city of Babylonia which has yielded any important architectural results is Wurka, situated in the marshes to the south of Babylon. The mounds here are of immense extent, but composed principally of coffins and tombs, supposed to be of the Sassanian age, the place having for centuries been used as a burial-place for the surrounding nations, as Kerbela and Mesjid Ali are at the present day, from some supposed sanctity attached to the spot.

The principal building hitherto explored is a palace called by the natives Wuswus: it is a rectangle 246 ft. by 173, with one entrance, but no other opening in its external wall. Internally it seems to have consisted of one large oblong court, at the upper end of which were the state apartments, and on the left-hand side a series of small chambers, forming the private apartments of the palace.

Externally the whole of the walls were ornamented by reedings and panels, like those of the newly discovered building at Khorsabad, or the base of the Birs Nimroud.

Another building, called Bonarieh, was ornamented in a similar manner, but with this additional peculiarity, that the walls were covered with a mosaic formed of small cones, the bases of which were dipped in colours, and arranged in various patterns, as shown in the woodcut (No. 128). The style of ornament is elegant, and was probably the same as that painted on the plaster of the walls of the other buildings, and which has consequently perished from the lapse of time.

CHAPTER II.

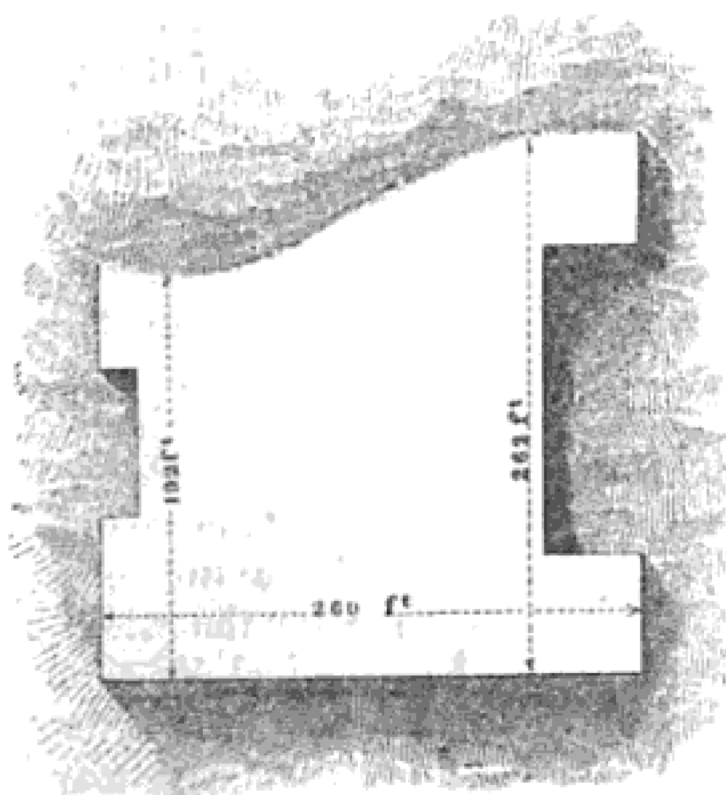
PERSIA.

CONTENTS.

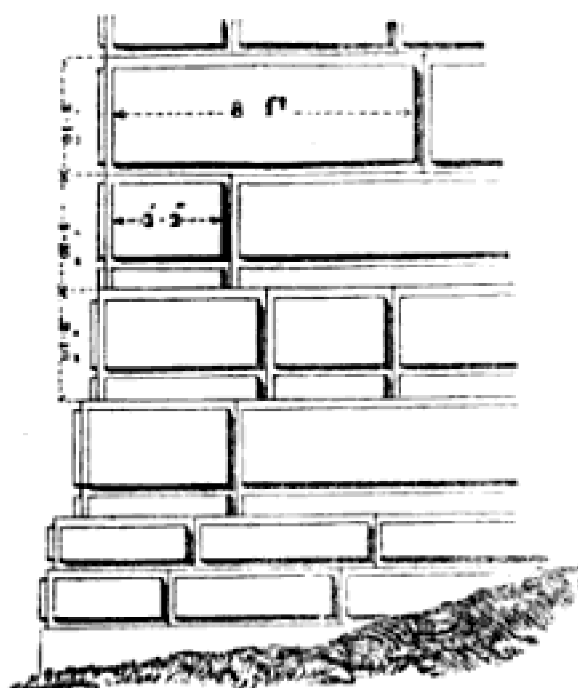
Buildings at Passargadæ — General appearance of Ruins at Persepolis — Propylæa — Palace and Tomb of Darius — Halls of Xerxes — Susa — Fire Temples — Tomb of Cyrus.

FROM the time of Nebuchadnezzar the history of this style of architecture is continued in a direct line for about two centuries and a half by the Persians, who succeeded to the arts, as well as to the empire, of the Babylonians. Their monarchs frequently resided at Babylon, and no doubt added to its buildings; but their own first capital was Passargadæ, where Cyrus and Cambyses resided from 560 B.C. to 522. This was succeeded by Istakr, or Persepolis, which was the principal capital of Darius Hystaspes, of Xerxes, and of all the kings of the Achæmenian dynasty, though they all certainly resided occasionally at Susa, and erected edifices there equal to those of their native metropolis, if not surpassing them in splendour.

Besides these, remains of the architecture of the Achæmenidæ are found at Hamadan, and even as far north as Teheran ; but the principal buildings are at Persepolis and its neighbourhood, which was the favourite residence of these monarchs during the most brilliant period of the dynasty.



129. Platform at Passargadæ.[1]



130. Elevation of Masonry at Passargadæ.

[1] The woodcuts in this chapter, except the restorations, are taken from Flandin and Coste's Perse Ancienne, except where the contrary is mentioned.

In their present state the remains at Passargadæ are, perhaps, more interesting to the antiquary than to the architect, the palaces on the plain being so ruined that their architectural arrangements cannot be understood or restored.

On the side of a hill overlooking the plain is a platform of masonry (woodcut 129) which originally supported either a temple or fire-altar, but this has now entirely disappeared, and the structure is only remarkable for the beauty of its masonry and the largeness of the stones with which it is built. These are bevilled (woodcut 130) not only at their joints but often on their faces with the same flat sinking as is found in all the Jewish works at Jerusalem, and sometimes in Greek buildings of the best age. Thus an ornament of great beauty and elegance is formed out of what would otherwise be merely a plain mass of masonry.

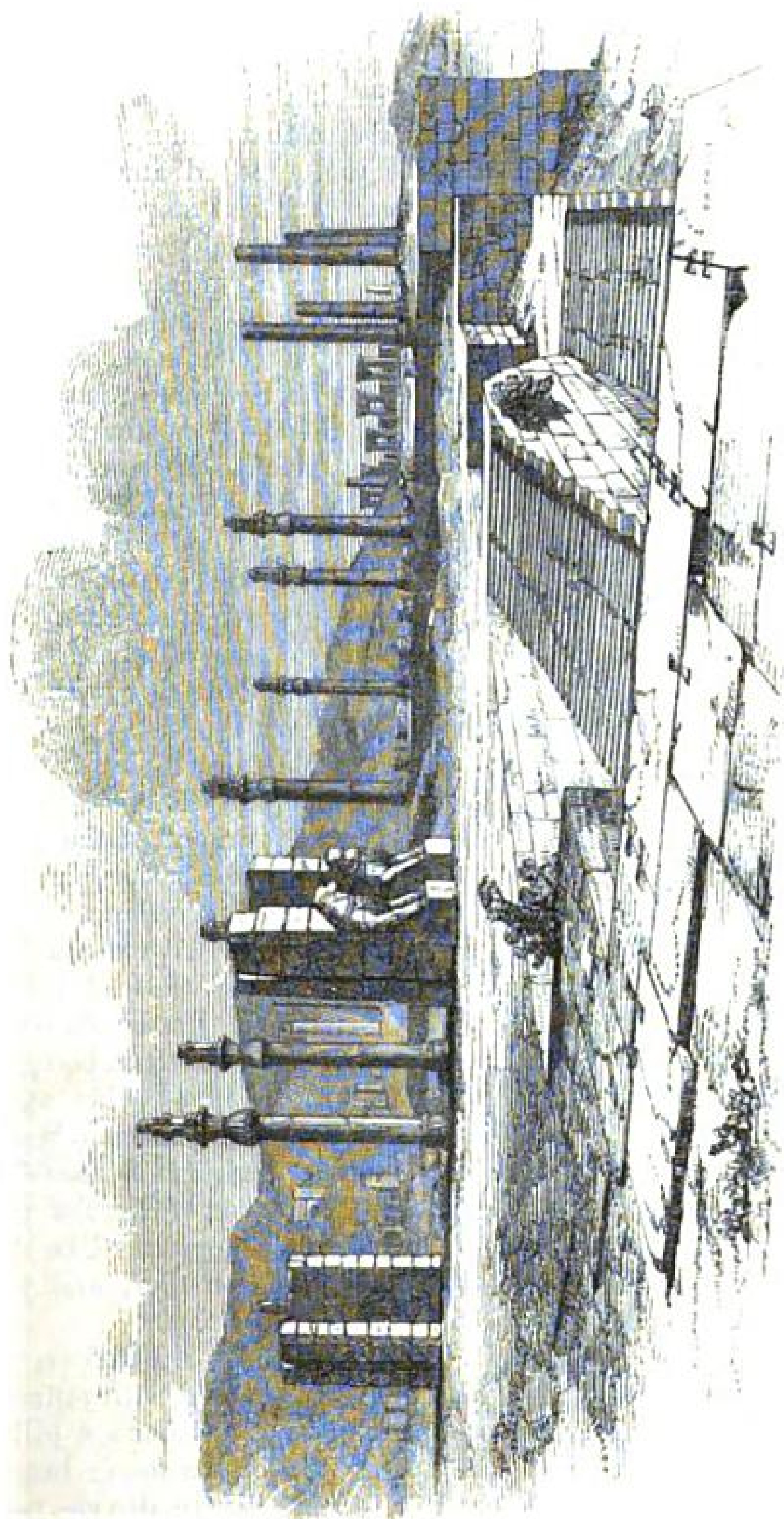
On the plain are the foundations of several large buildings, probably palaces, temples, or basilicas, but all so completely destroyed that it is now impossible to say what their original form or destination may have been. One pillar only is now standing, a plain shaft, without capital or base, and more like an Indian *lât* than a column destined to support a roof.

Persepolis.

Turning from these scattered remains, we find on the great terraced platform at Persepolis by far the most remarkable group of ancient buildings now existing in this part of Asia. It so happens that the ruins at Persepolis are an exact complement to the style described in the last chapter, supplying what was there wanting, and enabling us to understand much that would probably for ever have remained a mystery without it.

At Nineveh, as we have seen, all the pillars, the roofs, and the constructive parts of the building, which were of wood, have disappeared, and left nothing but the massive walls, which, falling, and being heaped the one on the other, have buried themselves and their ornaments till the present day. At Persepolis, on the contrary, the brick walls, being thinner and exposed on the bare surface of the naked rock, have been washed away by the storms and rains of 2000 years, leaving only the skeletons of the buildings, but which fortunately in the rocky country of Persia the architect constructed of stone. We have thus at Persepolis, if I may use the expression, all the bones of the building, but without the flesh; at Nineveh, the flesh, but without the bones that gave it form and substance. At the same time there are still so many points common to both styles as to leave no doubt of their identity, and to enable us to complete the whole by putting together the two sets of materials. The principal discrepancy appears to have been in the purposes to which the buildings were appropriated; those at Nineveh being residences, though it may be sacred residences, of the kings; while those at Persepolis partook certainly more of the temple character. The latter were all separate halls of state, appropriated to the great ceremonial pageants of royalty,

which were always, more or less, conjoined with religious observances, and they do not seem to have been residences in the usual acceptation of the term. The hareem, the family, and dependants of the king must



131. View from Top of Great Stairs at Persepolis.

either have resided in buildings on the rock, which, composed of inferior materials, have been washed away, or have dwelt in the neighbouring palace in the town of Istakr, or in some of the buildings on the plain which are now in ruins.

The general appearance of the ruins, as they at present stand, will be seen from the woodcut (No. 131). The principal mass in the foreground on the left is the Propylæa of Xerxes, and behind that and to the right stand the pillars of the Chehil Minar, or Great Hall of Xerxes. Between these are seen in the distance the remains of the smaller halls of Darius and Xerxes.

One of the most striking points in this view is the staircase that led from the plain to the platform, and also that leading from the lower level to that on which the great hall stood. Indeed, among these ruins, nothing is so remarkable as these great flights of steps. The builders of those days were, so far as we know, the only people who really understood the value of this feature. The Egyptians seem wholly to have neglected it, and the Greeks to have cared little about it: but it was not so at Nineveh, where, so far as we can understand from the indistinct traces left, the stairs must have been an important part of the design. But they were so situated that they were not buried when the buildings were ruined, and consequently have been removed. At Jerusalem too we read that, when the Queen of Sheba saw "the ascent by which Solomon went up to the house of the Lord, there was no more spirit in her." Indeed, in all the ancient temples and palaces of this district, more attention is paid to this feature than to almost any other; and from the favourable situation of all these palaces on artificial terraces, the builders were enabled to do this with far more effect than any others in ancient or in modern times.

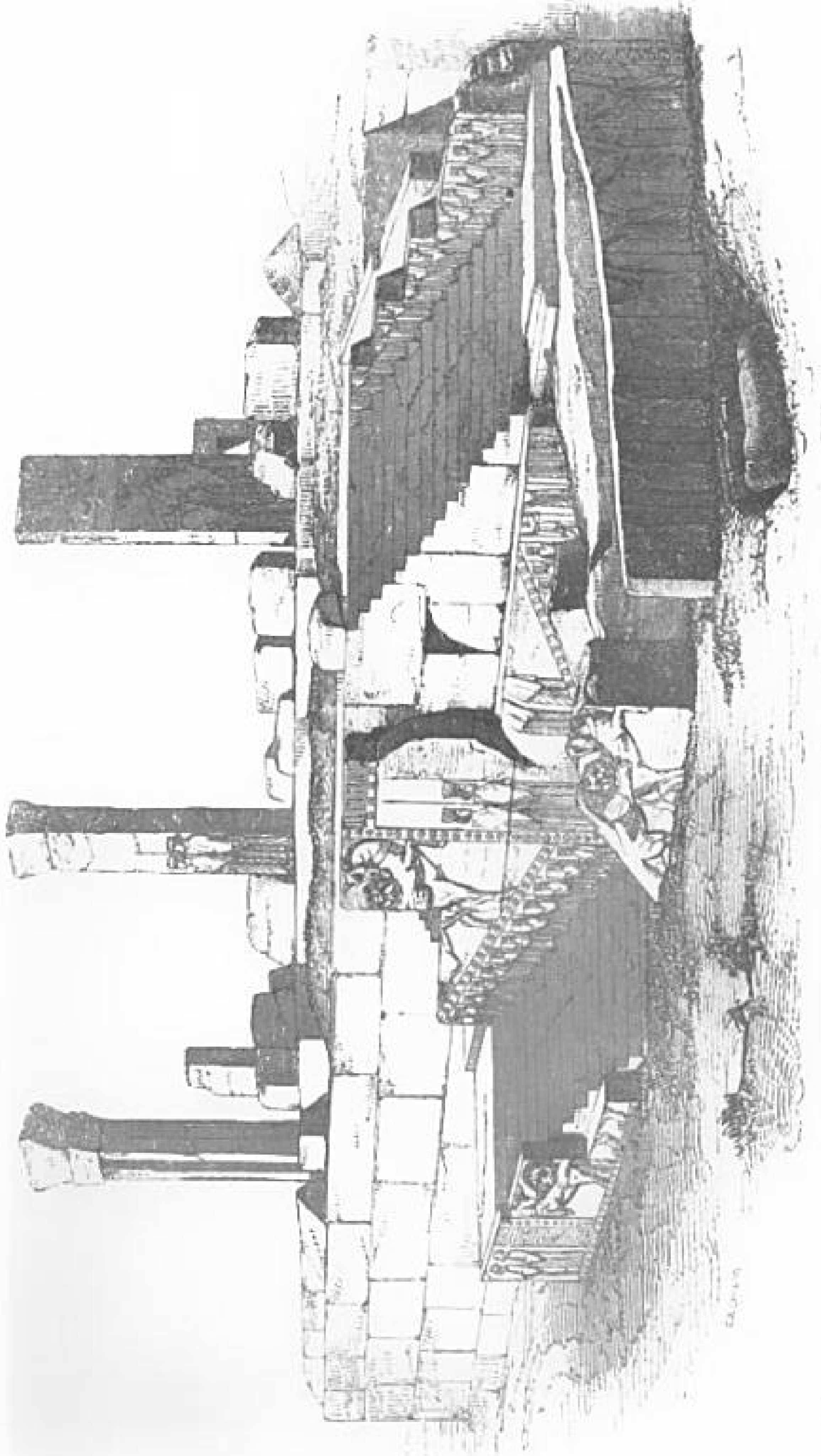
The lower or great staircase at Persepolis is plain, and without any sculpture, but built of the most massive Cyclopean masonry, and of great width and very easy acclivity. That in front of the great hall is ornamented with sculpture in three tiers, representing the people of the land bringing presents, and the subject nations tribute, to lay at the feet of the monarch, combined with mythological representations; the whole bearing a very considerable resemblance to the sculptures on the walls of the Assyrian palaces, though the position is different. The arrangement of these stairs, too, is peculiar, none of them being at right angles to the buildings they approach, but all being double, apparently to allow processions to pass the throne, situated in the porches at their summit, without interruption, and without altering the line of march.

One of these flights, leading to the platform of Xerxes' palace, is shown in the woodcut (No. 132). In arrangement it is like the stairs leading to the great terrace, but very much smaller, and profusely adorned with sculpture.

The principal apartment in all the buildings situated on the platform is a central square hall, whose floor is studded with pillars placed equidistant the one from the other. The smallest have 4 pillars, the next 16, then 36, and one has 100 pillars on its floor; but to avoid inventing new names, we may call these respectively, distyle, tetrastyle, hexastyle, and decastyle halls, from their having 2, 4, 6, or 10 pillars on each face of the phalanx, and because that is the number of the pillars in their porticos when they have any.

The building at the head of the great stairs is a distyle hall, having

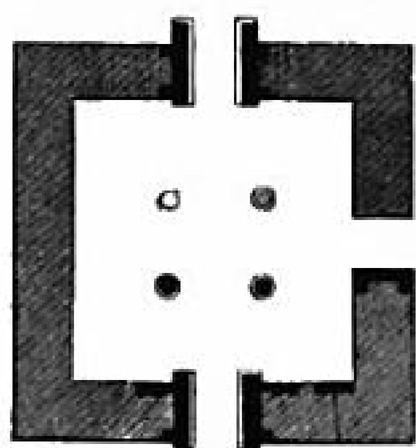
4 pillars supporting its roof. On each side of the first entrance stands a pair of human-headed winged bulls, so nearly identical with those found in Assyrian palaces as to leave no doubt of their having the same



132. Stairs to Palace of Xerxes.

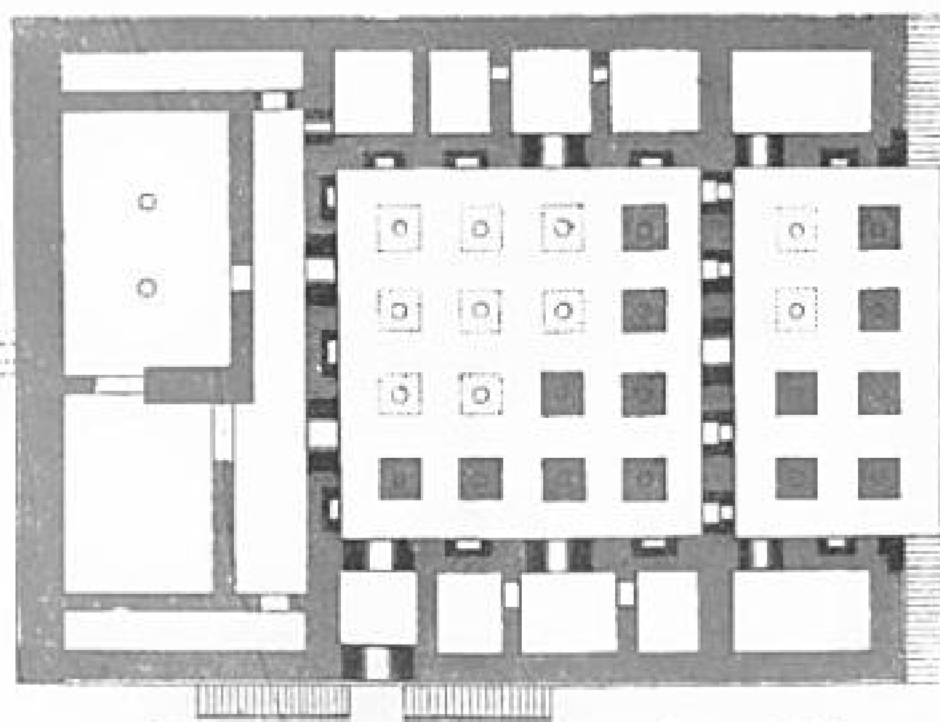
origin. At the opposite entrance are two bulls without wings, but drawn with the same bold, massive proportions which distinguish all the sculptured animals in the palaces of Assyria and Persia. The other entrances are destroyed, and the foundation of only one remaining; but

this, with the foundations of the walls, leaves no room to doubt that the annexed woodcut (No. 133) is a true representation of its ground-plan. Nor can it be doubted that this is one of those buildings so frequently mentioned in the Bible as a "gate," not the door of a city or buildings, but a gate of justice, such as that where Mordecai sat at Susa—where Abraham bought his field—where Ruth's marriage was judged of—and, indeed, where public business was generally transacted.


Scale 100 ft. to 1 inch.
133. Propylæa.

There are two other distyle halls or gates on the platform: one to the westward of this, very much ruined; and one in the centre of the whole group, which seems besides to have had external porticos.

There are two tetrastyle halls, one of which, erected by Darius (woodcut No. 134), is the most interesting of the smaller buildings on

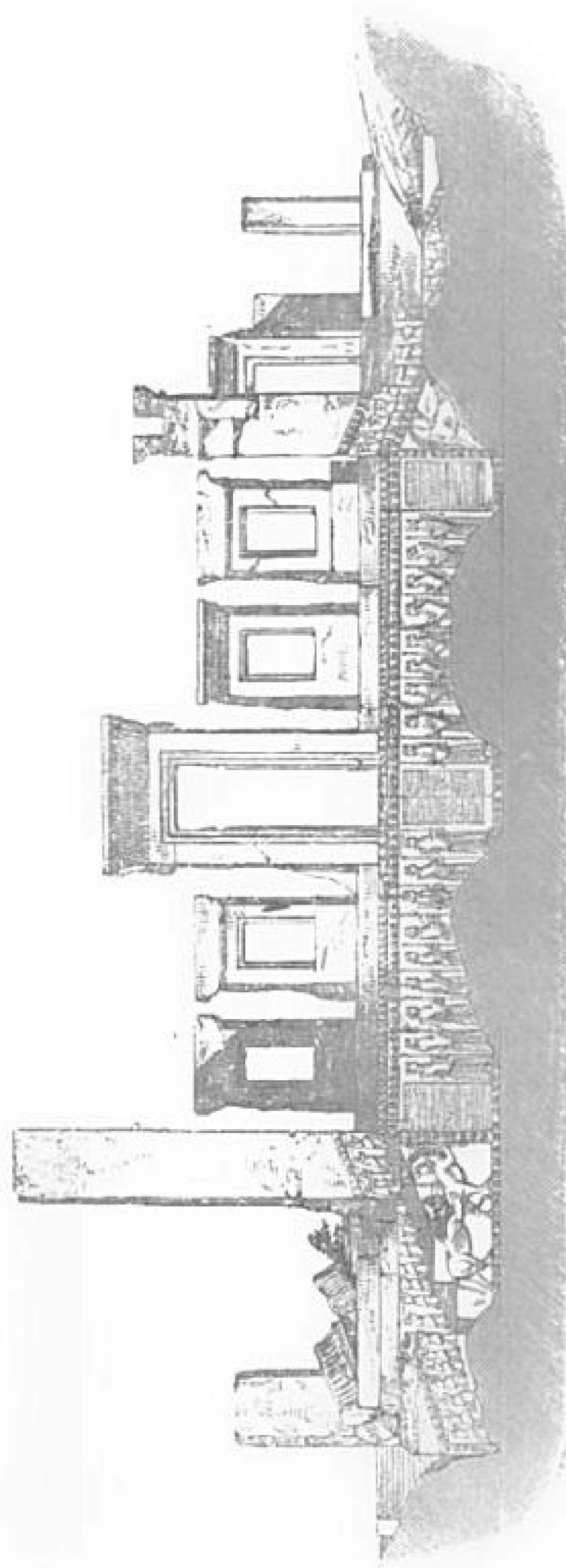

Scale of 50 ft. to 1 inch.

134. Palace of Darius.

the terrace. It is the only building that faces the south, and is approached by a flight of steps, represented with the whole façade of the palace as it now stands in the woodcut (No. 135). These steps led to a tetrastyle porch, two ranges in depth, which opened into the central hall with its 16 columns, around which were arranged smaller rooms or cells, either for the occupation of the king, if it was a palace, or of the priests, if a temple. In the western side a staircase and doorway were added, somewhat unsymmetrically, by Artaxerxes.

We appear to possess, in the tomb of Darius, at Naksh-i-Rustam, a representation of this palace as it was in the days of the great king—for the arrangement, the dimensions, and all the features of this tomb, as represented in woodcut No. 136, coincide so exactly with the existing remains of the palace as to leave little or no doubt but that the one is an exact copy of the other; so much so as to enable us to supply from the rock-cut example those parts which are wanting in

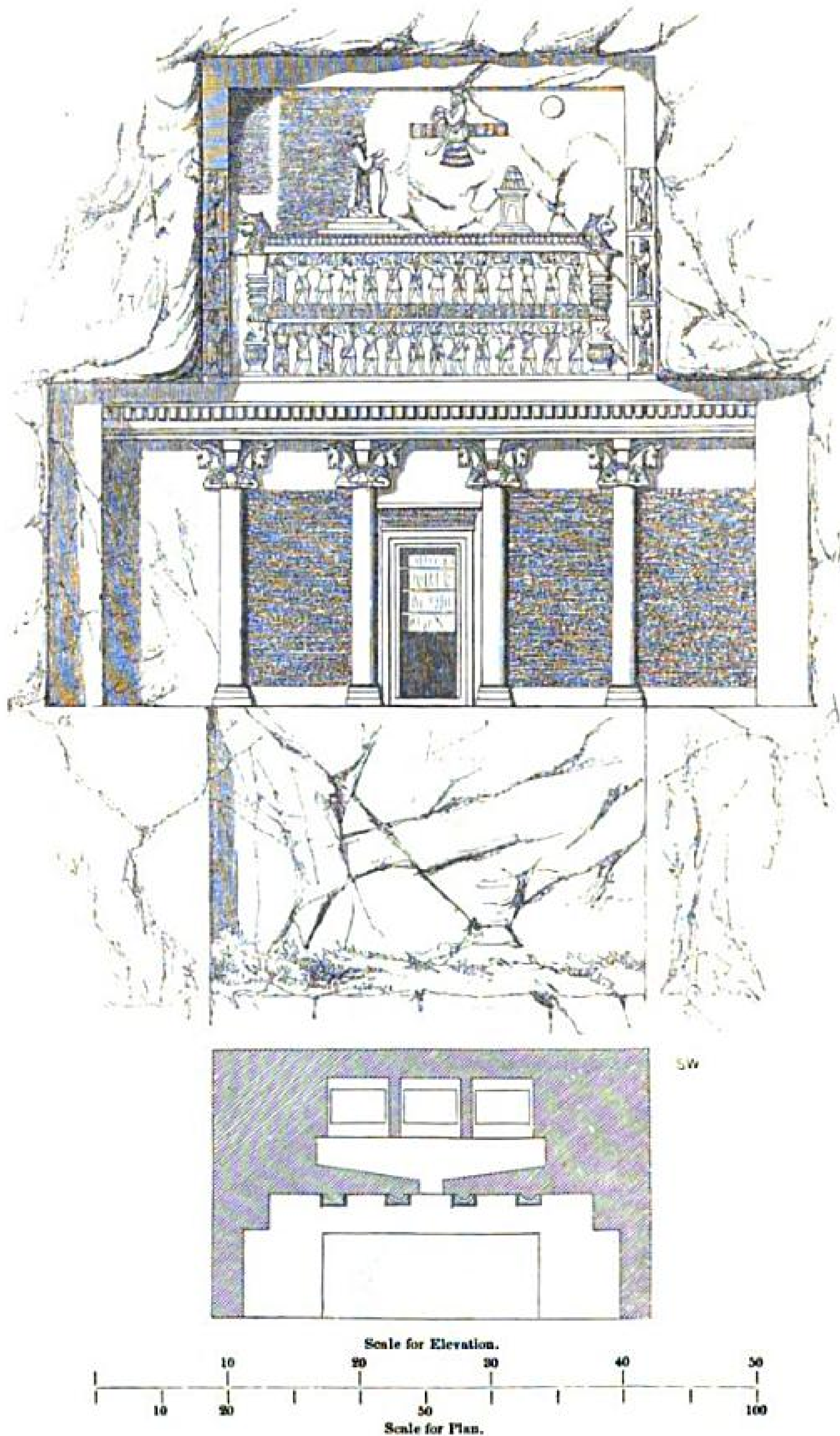
the built palace. It appears certain that the palace originally supported a raised platform, or *talar*, on its roof, identical with that represented in the tomb, on which the fire-altar was placed at which the



125. Façade of Palace of Darius at Persepolis.
Scale of 20 ft. to 1 inch.

king used to worship, or on which he was wont to exhibit himself to his subjects on state occasions.

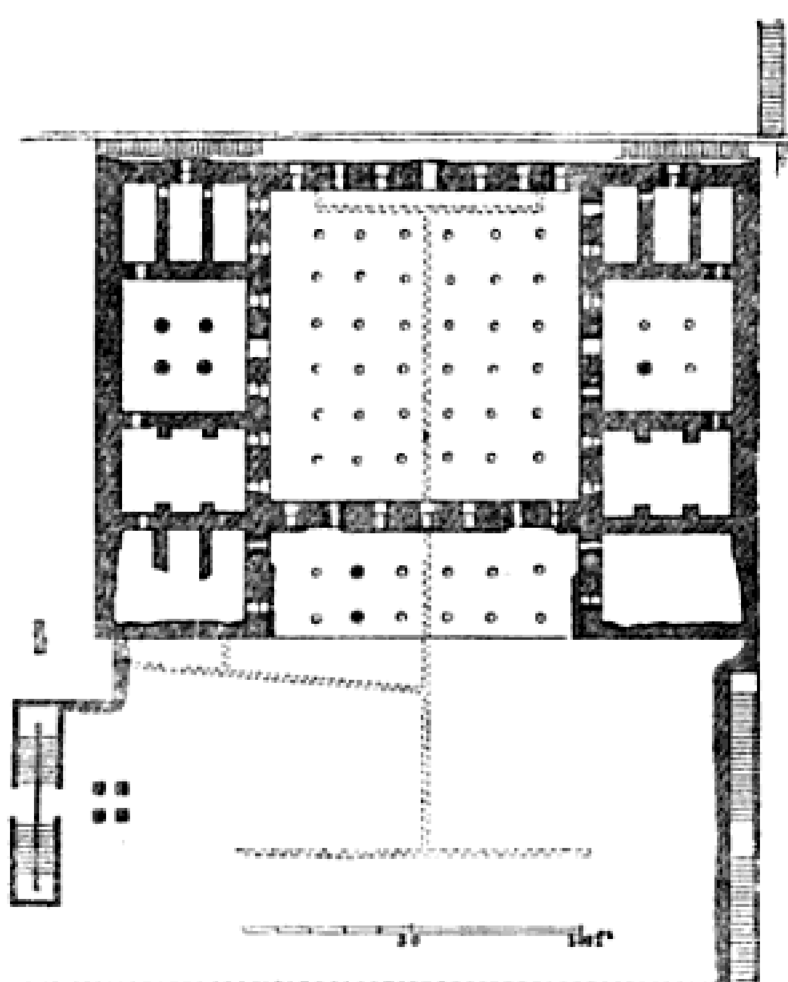
The other tetrastyle hall is similar to this, only plainer and somewhat smaller.



136. Tomb of Darius at Naksh-i-Rustam, representing the façade of his palace surmounted by a Talar.

Turning from these to the hexastyle halls, the smallest but most perfect (woodcut No. 137) is that standing on the southern edge of the upper platform, the inscriptions on which certainly prove it to have been built by Xerxes.

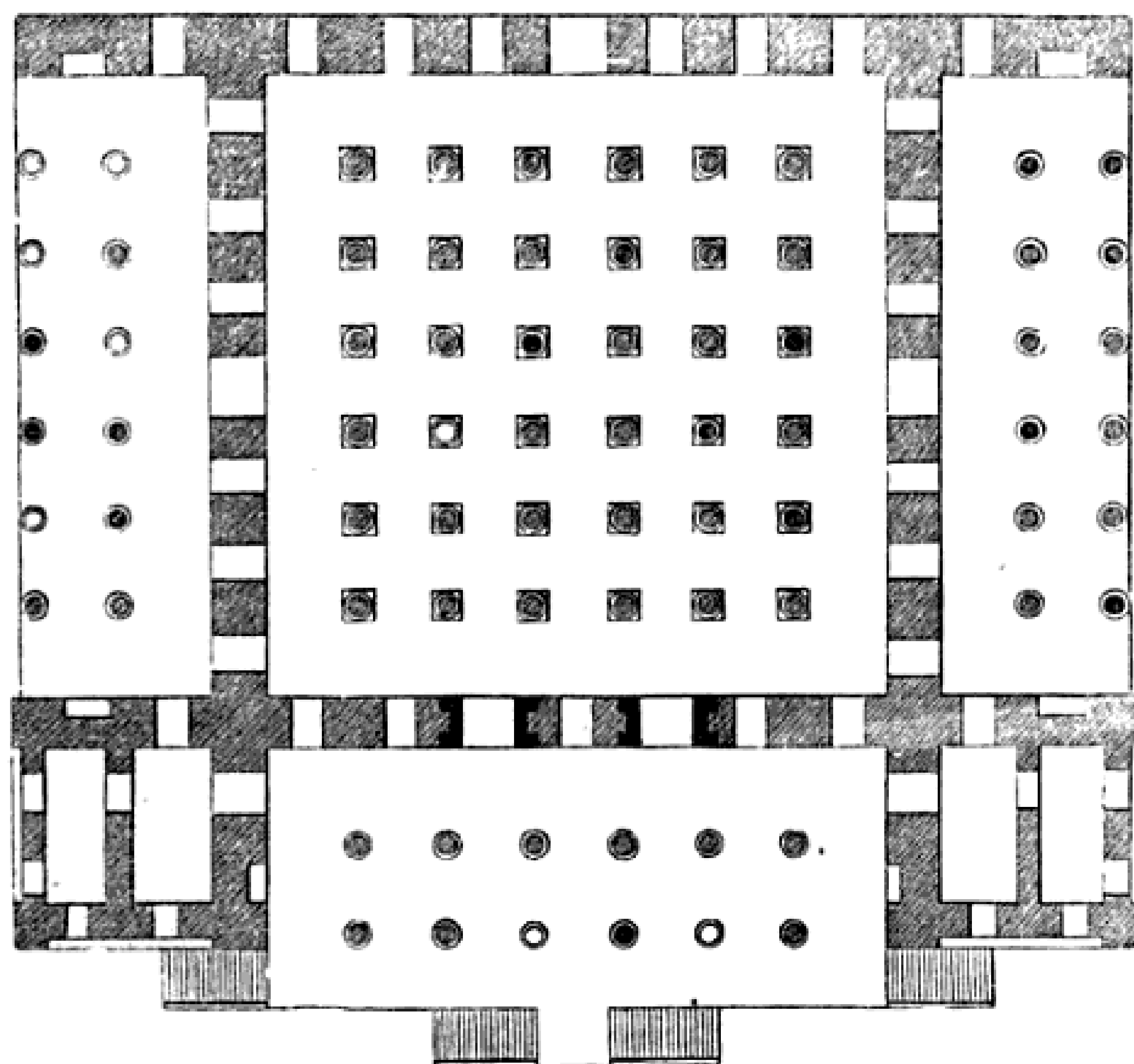
Its platform is approached by 2 flights of steps, that on the east being the one represented in woodcut No. 132, and there are indications of a tetrastyle hall or gate having existed on its summit. That to the west is simpler. The hall itself had a portico of 12 columns, and on each side a range of smaller apartments, the two principal of which had their roofs supported by 4 pillars each.



Scale 100 ft. to 1 inch.

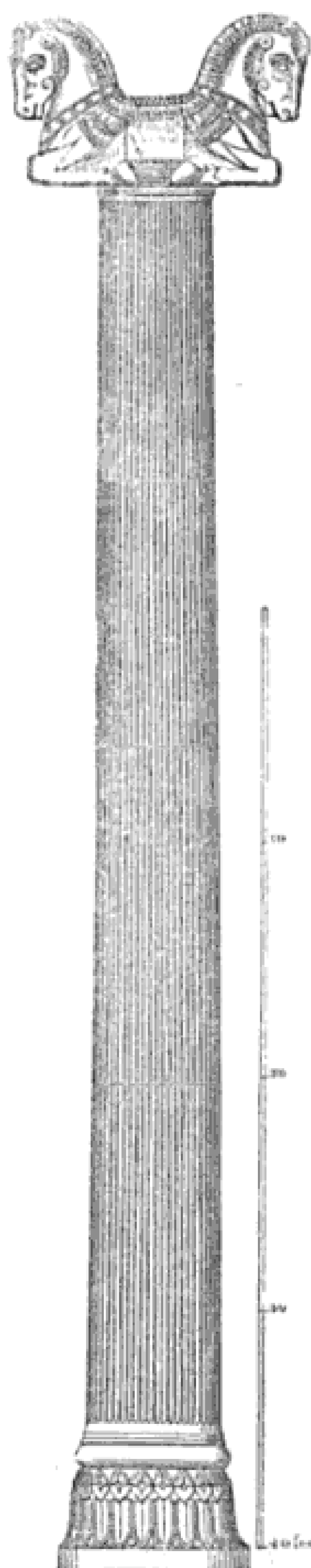
137. Palace of Xerxes.

The great value of this building, however, is that it enables us to understand the arrangement of the great Hall of Xerxes—the Chehil Minar—the most splendid building of which any remains exist in this part of the world. From the annexed plan (woodcut No. 138) it will

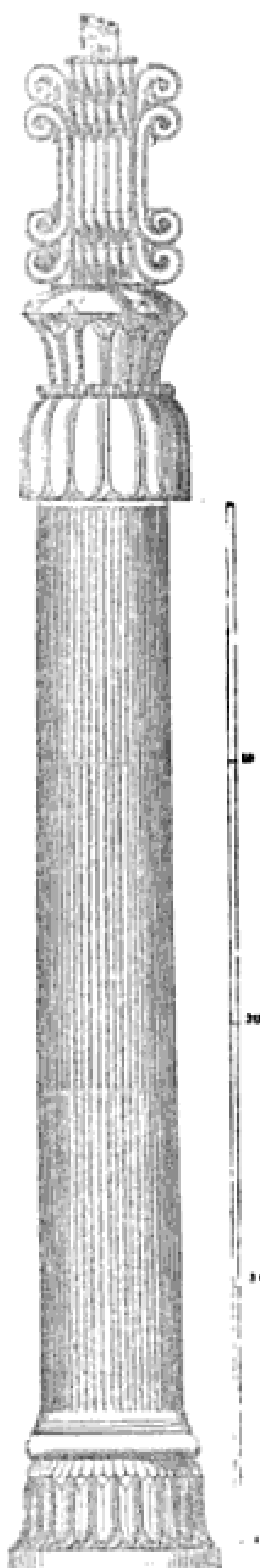


138. Restored plan of Great Hall of Xerxes at Persepolis. Scale 100 ft to 1 in.

be seen that the plan of the whole central part is identical with that of the building just described, as the bases of all the 72 columns still exist in situ, as well as the jambs of the 2 principal doorways shaded darker in the plan. The walls only are restored from the preceding illustration. Instead of the 2 distyle halls on each side, this had hexastyle porticos of 12 pillars each, like that in front; the angles between which were filled up with rooms or buildings, probably such as suggested in the plan.



139. Pillar of Western Portico.



140. Pillar of Northern Portico.

Two orders of pillars were employed to support the roof of this splendid building, one, represented in woodcut No. 139, with double bull-capitals, like those of the porch of Darius's palace. These are 67 ft. 4 in. in height from the floor to the back of the bull's neck, or 64 ft. to the under side of the beam that lay between the bulls. The other order, with the Ionic volutes (woodcut No. 140), which is also that employed in the northern portico, and generally in interiors throughout, is nearly identical, as far as the base and shaft are concerned, except in height. The capital, however, differs widely, and is 16 ft. 6 in. in height, making an order altogether 9 ft. 7 in. less than the external one, the difference being made up by brackets of wood, which supported the beams of the roof, internally at least, though externally the double bull capital probably surmounted these Ionic-like scrolls.

There is no reason to doubt that these halls also had platforms or *talars* like the smaller halls, which besides would serve to shelter any opening in the roof; though in the present instance it seems

very doubtful if any such openings or skylights existed or were required.

Thus arranged, the section of the buildings would be as shown in the woodcut (No. 141); and presuming it to be sculptured and



141. Restored Section of Hall of Xerxes. Scale 100 ft. to 1 in.

painted as richly as other buildings of its age and class, which it no doubt was, it was not only one of the largest, but one of the most splendid buildings of antiquity. In plan it was a rectangle of about 300 ft. by 350, and consequently covering 105,000 square ft.; it was thus larger than the hypostyle hall at Karnac, or any of the largest temples of Greece or Rome. It is larger, too, than any mediæval cathedral except that of Milan; and although it has neither the stone roof of a cathedral, nor the massiveness of an Egyptian building, still its size and proportions, combined with lightness, and the beauty of its decorations, must have made it one of the most beautiful buildings ever erected, and both in design and proportion far surpassing those of Assyria, though possessing much of detail or ornament so similar as to be almost identical in style.

There is no octastyle hall at Persepolis, and only one decastyle. In this instance the hall itself measured about 225 ft. each way, and had 100 pillars on its floor; still it was low in proportion, and devoid of lateral porticos, and consequently by no means so magnificent a building as the great hall of Xerxes. The portico in front was 2 ranges in depth, and flanked by gigantic bulls; but as the whole height was barely 25 ft., it could not have been a remarkable or pleasing object. Indeed, the sculptures on the jambs of the doorways are the most interesting part of this building, representing the king on his throne, and various mythological subjects, on a more extensive scale than those similarly situated in the other buildings of the platform: for it is probable that in the other palaces these subjects were painted on the internal walls, as was done in those Assyrian halls which were not revêted with slabs. With an appropriateness that cannot be too much praised, sculpture seems only to have been used in parts of the building exposed to atmospheric injury, but at the same time also always to have been employed there in preference to painting.

Besides these there are the remains of several buildings on the plain, and within the precincts of the town of Istakr a building still

called the Hareem of Jemsheed, which may in reality have been the residence of the Achæmenian kings. It certainly belongs to their age, and from the irregularity of its form, and its general proportions, looks very much more like a residence, properly so called, than any of the monumental erections on the neighbouring platform of Persepolis.

Susa.

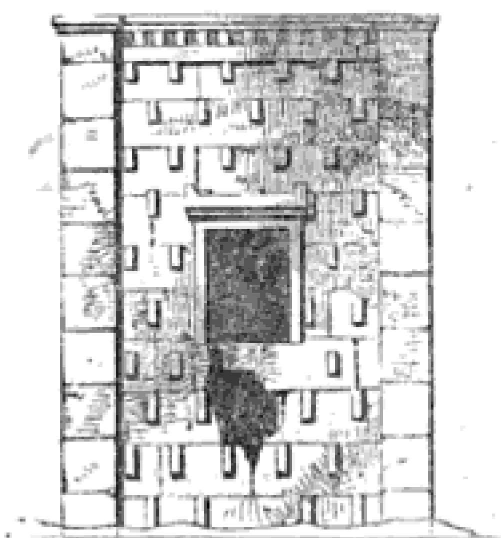
The explorations of Mr. Loftus at Susa in 1850 have laid bare the foundations of a palace almost identical with the Chehil Minar at Persepolis. It is, however, much more completely ruined, the place having long been used as a quarry by the inhabitants of the neighbouring plains, so that now only the bases of the pillars remain in situ, and fragments of the shafts and capitals strewed everywhere about, but no walls or doorways, or other architectural members which would enable us to supply anything wanting at Persepolis.

The bases seem to be of the same form and style as those at Persepolis, but rather more richly carved, though the bull capitals do not appear to have been so well executed.

Inscriptions round the bases of the pillars inform us that it was erected by Darius and Xerxes, but repaired or restored by Artaxerxes Mnemon, who added the inscriptions. In all probability it is the identical hall in which the scenes described in the book of Esther took place. The foundations of other parts of this palace might be no doubt laid bare by further excavations; but the ruin of the place has been so complete, that little of interest in an architectural point of view can be looked for. Below these Persian ruins are probably buried the remains of long-preceding dynasties, which deeper excavations would lay bare, and afford a rich harvest to the historical explorer.

Fire Temples.

Near the town of Istakr, and opposite the tombs of Naksh-i-Rustam, stands a small tower-like building, represented in the woodcut. The lower part is solid; the upper contains a small square apartment, roofed by two great flat stone slabs: access to this is obtained from a doorway situated at some distance from the ground.



142. Kaabah at Istakr. No scale.

Both the traditions of the place, and the knowledge we have of the forms of the Magian religion, point to this as one of the fire temples of the ancient Persians. Its roof is internally still black, probably with the smoke of ancient fires, and, though simple and insignificant as an architectural monument, it is interesting as the only form of a temple apart from regal state which the ancient Persians possessed.

Another, almost identical in form, is found at Passargadæ. The celebrated Kaabah at Mecca, to which all the Moslem world now bow in prayer, is probably a third; and we possess an Assyrian picture of a temple very much resembling this. It is found on the end of a block of marble, called Lord Aberdeen's Black Stone, which is covered by the annals of a king who reigned at Nineveh in the 7th century B.C.

TOMBS.

Little requires to be said of the tombs of the Persians: that of Darius is represented in plan and elevation in woodcut No. 136, and, as before remarked, on the rock is a copy of the façade of his palace. Internally, three small cells contained the remains of the king, with those of the persons, probably his favourite wife or wives, for whom he had destined that honour. Close by this, at Naksh-i-Rustam, are four others, and in the rock behind Persepolis three more tombs of the Achæmenian kings, identical with these in all essential respects, but still with such a difference in workmanship and detail as would enable a careful architectural student easily to detect a sequence, and so affix to each, approximately at least, the name of the king to whom it belongs. Unfortunately, that of Darius only is inscribed; but his position in the dynasty is so well known, that, starting from that point, it would be easy to complete the series with the others.

The one exception to this rule is the structural tomb at Passargadæ, which, from the description of the Greeks, we know certainly to be that of Cyrus. It consists of a small temple-like chamber, situated on the top of a small pyramid of stone steps, and surrounded by a peristyle or cloister of columns at some distance from the building itself.



143. Tomb of Cyrus.

Referring to the woodcuts Nos. 125 and 126, representing the temple at Borsippa, and bearing in mind how exactly this represents

he temple, or, as it was as frequently called by the Greeks, the tomb-of Belus, we have no difficulty in recognising the source whence this form of sepulture is derived.

The building before us is in fact a reproduction, on a small scale, of the tomb of the founder of the Babylonian dynasty. Like it, it consists of a pyramid of 7 stories, with a chamber or cell in the upper one. In this instance the chamber is proportionally magnified, and the stories become mere steps, but the form and arrangements are the same, and this is in fact the only representation we have of one at least of the Babylonian modes of sepulture.

CHAPTER III.

SYRIA.

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Buildings of Solomon — Second Temple at Jerusalem — Palmyra.

CHRONOLOGICAL MEMORANDA.

Solomon builds Temple at Jerusalem	B.C. 1005
Nehemiah rebuilds Temple	445
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WHEN we turn from Assyria to Syria, we have unfortunately nothing but the memories of the past to guide us in our researches into the history of the art of that country. Tyre and Sidon, the great commercial cities of the ancient world, are no more, and, were it not for history, even their site would be unknown. Nowhere throughout the country have any remains yet been discovered that can with certainty be said to be older than the Christian era; but it by no means follows that such may not exist, for, so far as I know, no traveller has yet visited that country capable of discriminating between what is really old and what must be ascribed to a more modern date.

Even Jerusalem herself, one of the most remarkable cities of the ancient world, is almost without one vestige of her pristine greatness. It is true that the site of her celebrated temple is still known, and part of the terrace-wall which supported it still exists; but it is very uncertain if even this wall can be dated earlier than the time of Herod, who rebuilt the temple just before the birth of Christ.

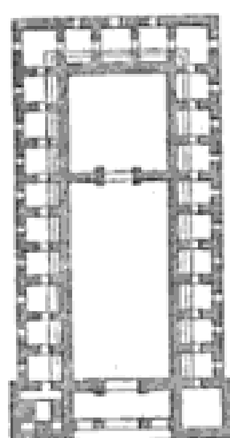
This absence of material remains is, however, in some measure compensated for in the fact that we have more detailed descriptions of the buildings of Jerusalem than of those of almost any ancient city known. From those in the Bible, with the paraphrase of them in Josephus, we are able to acquire a tolerably distinct idea of the buildings of Solomon, and from the descriptions of the latter author we can also understand the form of the temple as rebuilt by Herod. Till, however, the palaces of Assyria were disinterred, and those of Persepolis examined, we had but little to guide us in our restorations, but now it requires only a little more time and patient industry to make all clear.

BUILDINGS OF SOLOMON.

No building, for instance, of antiquity so much resembles the temple of Solomon as the so-called palace of Darius at Persepolis

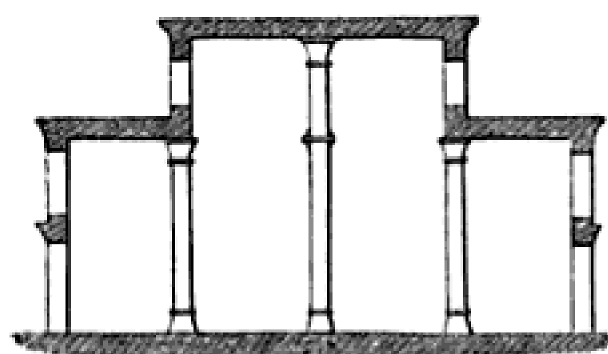
(woodcuts No. 134 and No. 135), only that the latter is by far the larger of the two, being 50 ft. in front, while Solomon's temple was only 30 ft. (20 cubits), and had consequently only 2 pillars in its porch instead of 4. In both buildings the porch opened into the largest hall of the building; and beyond this, at Jerusalem, was the Holy of Holies, a cube of 30 ft. each way. The arrangement of the innermost part of the temple-palace of Darius cannot be clearly made out. No doubt it differed from the Jewish temple, as the objects for which the buildings were designed were different; but the small chambers on the side, the square mass on either side of the porch, and above all the form of the capitals of the Persepolitan pillars (woodcut No. 140), explain the corresponding arrangement in the Jewish temple far more completely than anything elsewhere in antiquity can do.

Another curious circumstance mentioned by Josephus,[1] but not in the Bible, is that the Jewish temple had an upper story of wood on its roof, a *talar*, in short, such as that represented (woodcut No. 136) as carved on the tomb of Darius. Its use in the Jewish temple is by no means so clear, though its existence may serve to explain the discrepancy between the measurements given in the books of Kings and Chronicles of the height of the building, the probability being that the temple itself was 45 ft. high, and the *talar*, and probably the eastern towers, as much more. The parts and dimensions of Solomon's temple were, 1st, a porch, 30 ft. wide by 15 ft. deep; 2nd, a pronaos, 60 ft. by 30 ft., and beyond that a naos or sanctuary, 30 ft. cube; the lower chambers were only 7½ ft. wide by 10½ ft.; so that the whole external dimensions of the building probably were rather more than 60 ft. in width by 120 ft. in length, or less than an ordinary parish church in this country.



144. Plan of Solomon's Temple. Scale 100 ft. to 1 inch.

The house of the Forest of Lebanon still more distinctly resembled an Assyrian palace; the principal apartment being 150 ft. long by half that breadth, and 45 ft. in height, and, according to the description, its section seems to have been like the diagram in woodcut 145, though there is a discrepancy between the authorities that introduces some difficulty into the matter. The pillars, like those at Nineveh, were of cedar, and supported a roof of the same combustible and perishable material. Following Josephus we read that "Solomon built some of these (the walls) with stones of 10 cubits, and wainscoted the walls with other stones that were sawed, and were of great value, such as are dug out of the bowels of the earth for the ornament of temples. The arrangement



145. Diagram Section of Solomon's House.

[1] Ant. Jud., viii. 3, 2; xv. 11, 1. Bel. Jud., v. 1, 5.

of the curious work of these stones was in three rows, but the fourth was pre-eminent for the beauty of its sculpture, for on it were represented trees and all sorts of plants. These trees and plants covered the stones that were beneath them, and their leaves were wrought so wonderfully thin and subtile that they appeared almost in motion; but the rest of the wall up to the roof was plastered over, and as it were wrought over with various colours and pictures."[1] This is so exact a picture of what we have recently discovered in Assyria as to leave no doubt of the identity of the two styles of building. The same observation applies to the other works of Solomon as described by Josephus—the Porch of Judgment, the house of Pharaoh's daughter, and the house where he dwelt, which had another court within the porch, which was of like work. The historian's whole account of the banqueting-halls, pleasure-gardens, &c., might serve as well to describe one of the exhumed edifices on the banks of the Tigris as anything which ever existed at Jerusalem. This analogy, when a little more study has been bestowed on the subject, will enable us almost certainly to restore the whole style by comparing the existing remains in the one place with the description of those in the other.

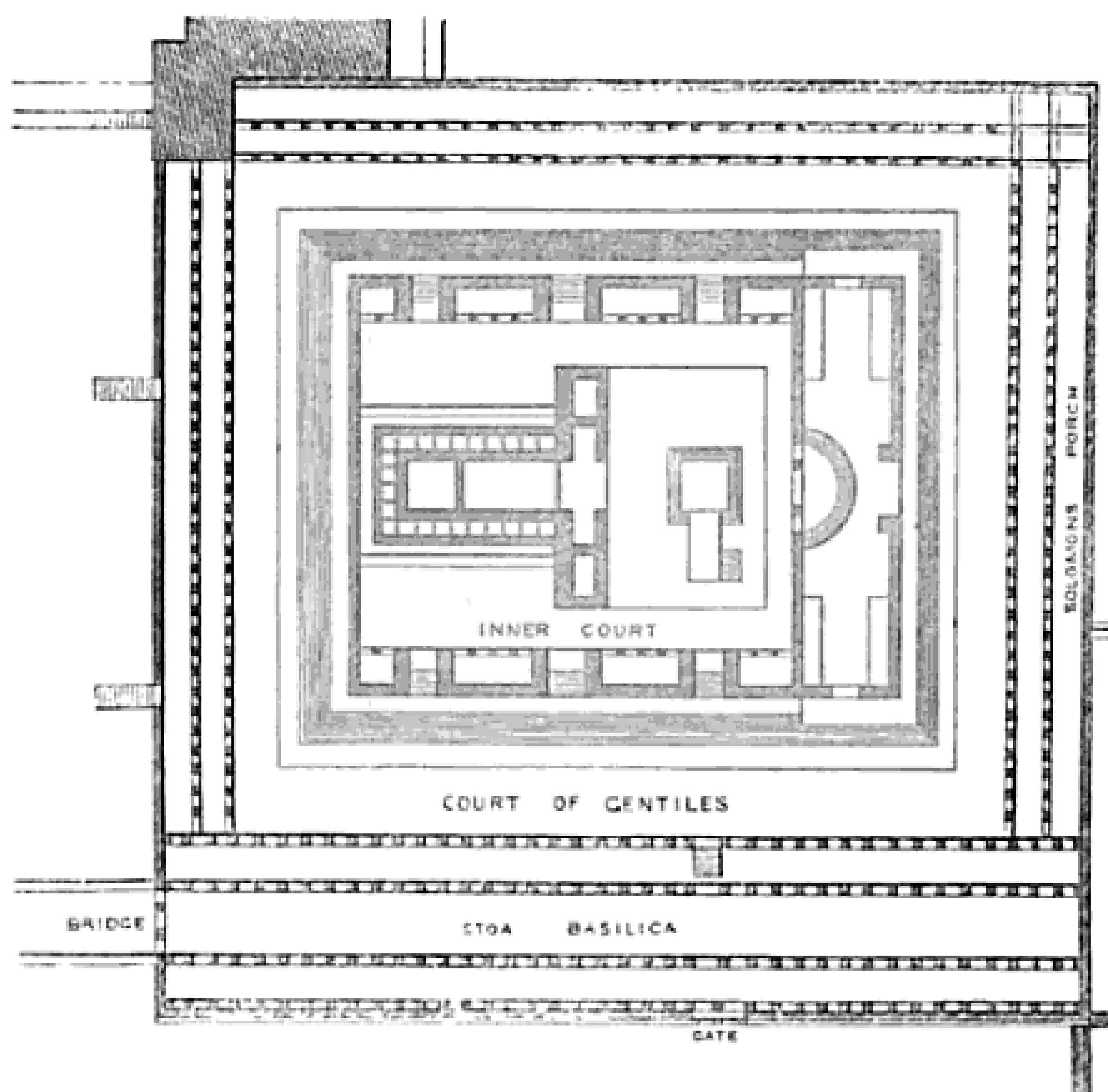
The Second Temple.

Although it is anticipating somewhat on the chronological order of the book, and transgressing a rule which in other parts has been strictly adhered to, of not attempting the restoration of buildings from mere verbal descriptions, still the last temple of Jerusalem is so interesting, both from its history and associations, that it may well claim to be an exception.

This was at all times regarded by the Jews as the *Second* Temple, though it appears to have undergone repairs in the time of Herod amounting to a complete rebuilding. The temple itself no doubt stood on the foundations of that of Nehemiah. It was situated at the south-western angle of the enclosure now called the Haram-es-scherref, and was exactly one stadium or 600 Greek ft. each way. On 3 sides it was surrounded by double porticos or cloisters of 2 rows of columns, that to the east being called Solomon's, probably from one which had been built there by him. To the south stood the magnificent Royal porch, or Stoa Basilica, erected by Herod. This consisted of 4 rows of Corinthian columns, 40 in each row, and consequently 15 ft. apart from centre to centre. The outer aisles were 30 ft. in width, the central 45 ft. or two and three intercolumniations respectively. The central aisle terminated in a bridge which, spanning the intermediate valley, led direct to the city.

These porches, with the space immediately within them, were called the court of the Gentiles, and were separated from that appropriated exclusively to the children of Israel by a low railing; within which steps led to an upper platform, on which stood the Temple, properly so called.

[1] Josephus, Ant. Jud., viii. v. 2.

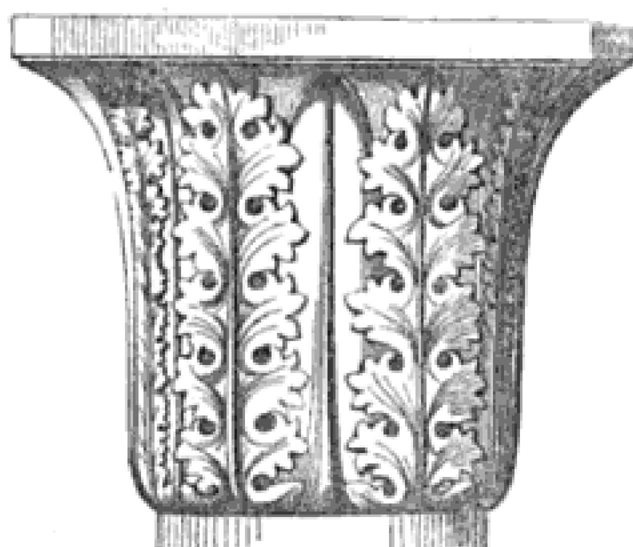


146. Plan of Temple at Jerusalem, as rebuilt by Herod. Scale 200 ft. to 1 in.

This had four gates on the north side, and as many on the south, three on each side leading into the inner court, the two most eastern to the women's court. To the east there were also two gates, more magnificent than the rest; the first leading into the women's court, the second from it into the inner court: both seem to have been adorned with all the art the Jews were capable of lavishing on such objects. In the inner court stood the altar, in the axis of the building, and beyond that the temple or holy house itself, somewhat larger than Solomon's, but built on the same plan, and with the evident intention of being an exact reproduction of it, although, judging from the evidently Roman character of the outer courts, it is more than probable that many features of Roman art were introduced into its details also.

Taken altogether, it must be confessed this was a very splendid building, though the temple or Naos itself was so small. Its substructures, of a class of masonry very similar to that found in the terrace at Passargadæ (woodcut No. 130), still strike every beholder with astonishment—the mass is so great, the stones so large, and the features altogether so bold. The Stoa Basilica was in itself as large as one of our finest Gothic cathedrals. The terrace, with its 10 great gateways, its inner porches, and last of all the temple itself, if it made up at all in richness for the smallness of its proportions, must have formed a group seldom surpassed, and almost justifying the encomiums which Josephus passes upon it.

Below the Stoa Basilica, and nearly in the centre of it, a vaulted passage led from the outside to a flight of steps leading up to the outer court of the temple. This passage is of bold, simple architecture, and without much ornament except one pillar, represented in the annexed woodcut, which is interesting as the only architectural fragment of ancient Jerusalem yet discovered, which seems to belong to a date even as early as the time of Herod. Externally the arch is now adorned by ornaments of the Byzantine period, and above stands the mosque El Aksah, and that of Omar, both built in the first century of the Hegira.



147. Capital of Pillar in subterranean entrance to Temple at Jerusalem. From a drawing by F. Arundale.

The Temple of the Sun at Palmyra is another building very similar to this. It consists of a cloistered enclosure of somewhat larger dimensions than that at Jerusalem, measuring externally 730 ft. by 715, with a small temple of an anomalous form in the centre. It wants, however, all the inner enclosures and curious substructures of the Jewish fane; but this may have arisen from its having been rebuilt in late Roman times, and consequently shorn of these peculiarities. It is so similar, however, that I cannot but look on it as a cognate temple to that at Jerusalem, though re-erected under another race of people.

A third temple, apparently very similar to these, is that of Kangovar in Persia. Only a portion now remains of the great court in which it stood, nearly of the same dimensions with those of Jerusalem and Palmyra, being 660 ft. by 568. In the centre are the vestiges of a small temple. At Aizaini in Asia Minor is a fourth, with a similar court: but here the temple is more important, and assumes more distinctly the forms of a regular Roman peristylar temple of the usual form, though still small and insignificant for so considerable an enclosure.

None of these are original buildings, but still, when put together and compared the one with the other, and, above all, when examined by the light which discoveries farther east have enabled us to throw on the subject, they may enable us to restore this style in something like its pristine form. At present they are but the scattered fragments of an art of which it is feared no original specimens now remain, and which can only therefore be recovered by induction from similar cognate examples of other though allied styles of art.

CHAPTER IV.

ASIA MINOR.

CONTENTS.

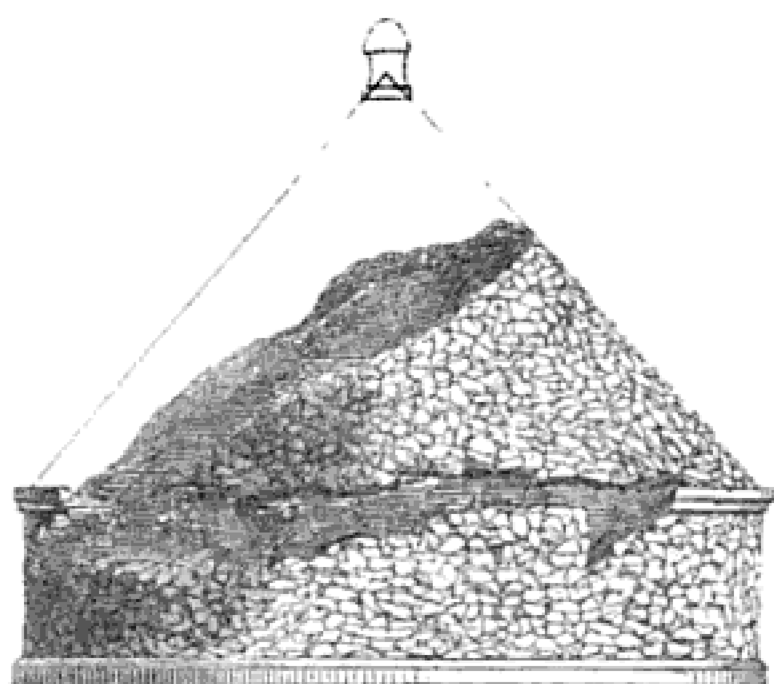
Historical notice — Tombs at Smyrna — Doganlu — Lycian tombs.

It is now perhaps in vain to expect that any monuments of the most ancient times, of great extent or of great architectural importance, remain to be discovered in Asia Minor; still it is a storehouse from which much information may yet be gleaned, and whence we may expect the solution of many dark historical problems, if ever they are to be solved at all.

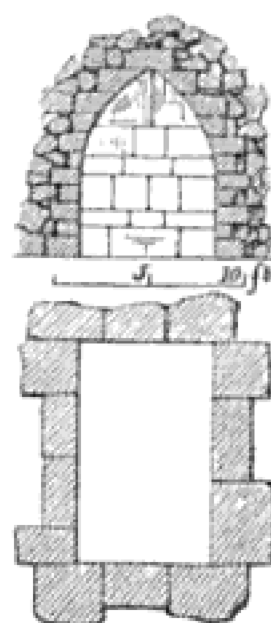
Situated as that country is in the very centre of the old world, surrounded on three sides by navigable seas opening all the regions of the world to her commerce, possessing splendid harbours, a rich soil, and the finest climate of the whole earth, it must have not only been inhabited at the earliest period of history, but must have risen to a pitch of civilization at a time preceding any written histories that we possess. We may recollect that, in the time of Psammeticus, Phrygia contended with Egypt for the palm of antiquity, and from the monuments of the 18th dynasty we know what rich spoil, what beautiful vases of gold, and other tribute of a rich and luxurious people, the Pout and Roteno and other inhabitants of Asia Minor brought and laid at the feet of Thothmes and other early kings many centuries before the Christian era.

At a later period (716 to 547 B.C.) the Lydian empire was one of the richest and most powerful in Asia; and contemporary with this, and for a long period subsequent to it, the Ionian colonies of Greece surpassed the mother-country in wealth and refinement, and almost rivalled her in literature and art. Few cities of the ancient world surpassed Ephesus, Sardis, or Halicarnassus in splendour; and Troy, Tarsus, and Trebisond mark three great epochs in the history of Asia Minor unsurpassed in interest and political importance by the recollections of any cities of the world. Excepting, however, the remains of the Greek and Roman periods—the great temples of the first, and the great theatres of the latter period—little that is architectural remains in this once favoured land. It happens also unfortunately that there is no great capital city—no central point—where we can look for monuments of importance. The defect in the physical geography of the country is that it has no great river running through it—no vast central plain capable of supporting a population sufficiently great to overpower the rest and to give unity to the whole.

So far as our researches yet reach, it would seem that the oldest remains still found in Asia Minor are the tumuli of Tantalais, on the northern shore of the gulf of Smyrna. They seem as if left there most opportunely to authenticate the tradition of the Etruscans having sailed from this port for Italy. One of these is represented in woodcuts No. 148 and 149. Though these tumuli are built wholly of stone,



148. Elevation of Tumulus at Tantalais. From Texier's Asie Mineure. 100 ft. to 1 in.



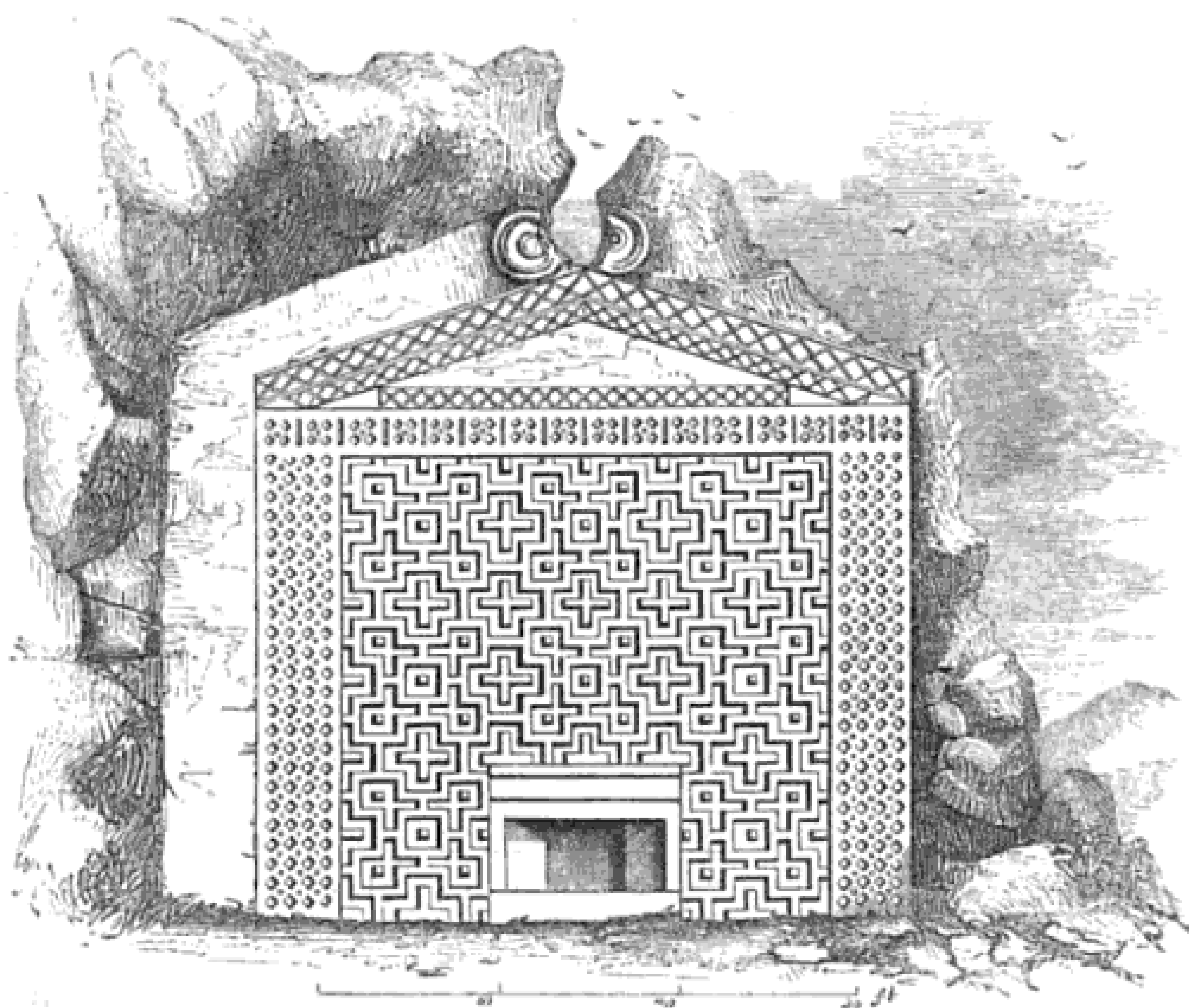
149. Plan and Section of Chamber in Tumulus at Tantalais.

no one familiar with architectural resemblances can fail to see in them a common origin with those of Etruria. The stylobate, the sloping sides, the inner chamber, with its pointed roof, all the arrangements indeed, are the same, and the whole character of the necropolis at Tantalais would be as appropriate at Tarquinii or Cæræ as at Smyrna.

The tumuli at Troy belonging to the same race are probably of about the same age; they are still unopened, and so are the later ones around the Gygæan Lake. If not already rifled, no excavation that could now be undertaken promises more fruitful results than an exploration of these sepulchres of the Lydians, and more especially that of Alyattes, so minutely described by Herodotus, and so interesting from its historical and ethnographic value.

Whether other tumuli exist elsewhere or not is by no means clear; but it seems more than probable that in the earliest times the whole of this country was inhabited by a Pelasgic race, who were also the first known occupants of Greece, and built the so-called Treasuries of Mycenæ and Orchomenus, and who sent forth the Etruscans to civilize Italy. If so, they would have left behind them no buildings but the sepulchres of their departed great ones; and if their history is to be recovered, it must be sought for in the bowels of the earth, and not in anything existing above ground.

Next to these in point of age and style comes a curious group of rock-cut monuments, found in the centre of the land at Doganlu. They are placed on the rocky side of a narrow valley, and unconnected apparently with any great city or centre of population. Generally they are called tombs, but there are no chambers nor anything about



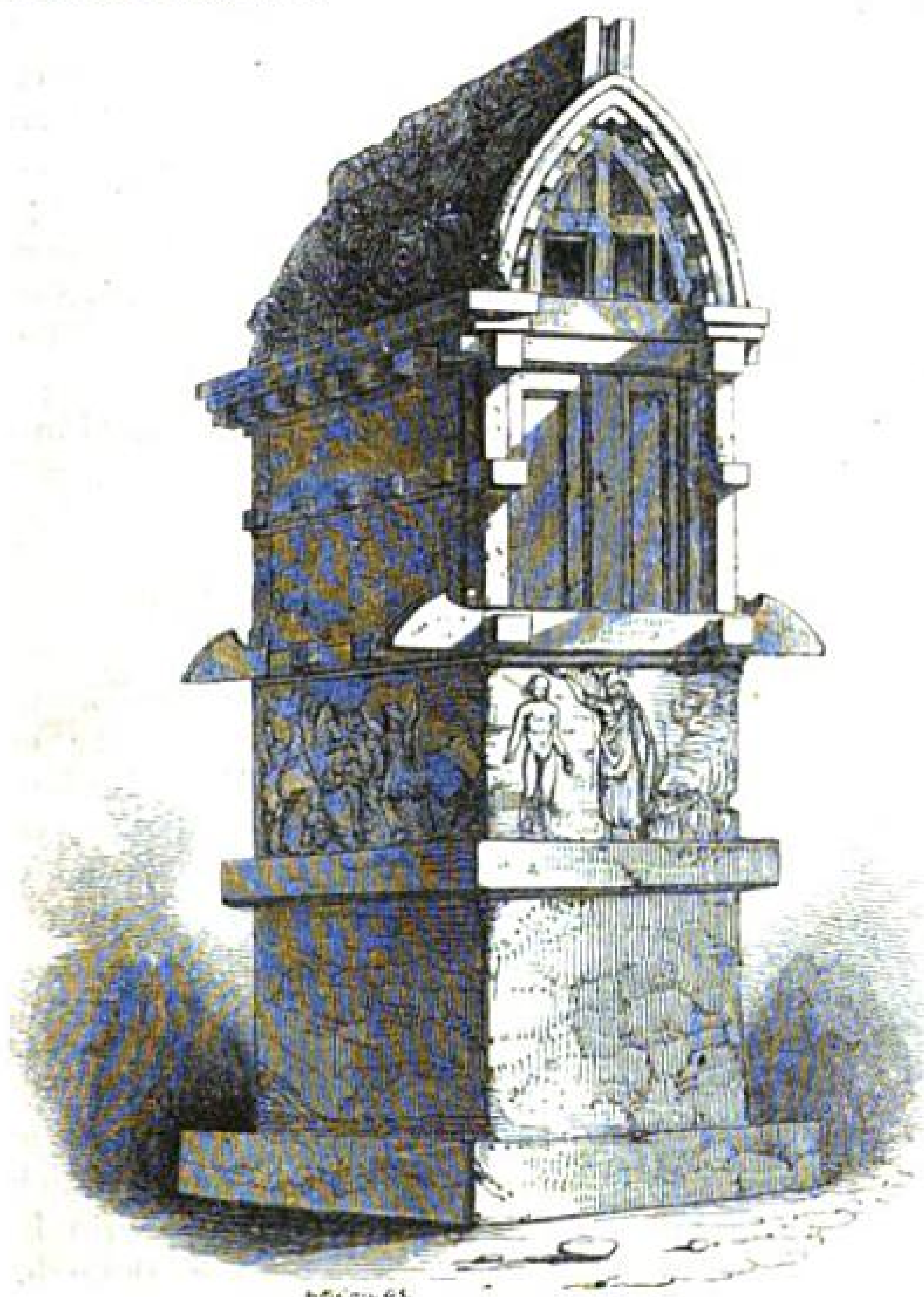
150. Rock-cut Frontispiece at Doganlu. From Texier's Asie Mineure.

them to indicate a funereal purpose, and the inscriptions which accompany them are not on the monuments themselves, nor do they refer to such a purpose. Altogether, they are certainly among the most mysterious remains of antiquity, and, beyond a certain similarity to the rock-cut tombs around Persepolis, it is not easy to point out any monuments that afford even a remote analogy to guide us in our conjectures. They are of a style of art clearly indicating a wooden origin, and consist of a square frontispiece, either carved into certain geometric shapes, or prepared apparently for painting; at each side is a flat pilaster, and above a pediment terminating in two scrolls. Some, apparently the more modern, have pillars of a rude Doric order, and all indeed are much more curious than beautiful. When more of the same class are discovered, they may help us to some historic data: all that we can now say of them is, that, judging from their inscriptions and the traditions in Herodotus, they seem to belong to some Indo-Germanic race from Thessaly, or thereabouts, who have crossed the Hellespont and settled in their neighbourhood; and their date is possibly as far back as 1000, and most probably before 700 B.C.

There are other rock-cut sculptures farther east, at Pterium and elsewhere; but all these are figure sculptures, without architectural form or details, and therefore hardly coming within the limits of this work.

The only remaining important architectural group in Asia Minor

is that of Lycia, made known in this country since the year 1838, by the discoveries of Sir Charles Fellows and others. Interesting though they certainly are, they are extremely disheartening to any one looking for earlier remains in this land,—inasmuch as all of them, and more especially the older ones, indicate distinctly a wooden origin—more strongly perhaps than any architectural remains in the western world. The oldest of them cannot well be carried farther back than the Persian conquest of Cyrus and Harpagus. In other words, it seems perfectly evident that up to that period the Lycians used only wood for their buildings, and that it was only in the time of the Persians that they first learnt to substitute for their frail and perishable structures others of a more durable material.



151. Lycian Tomb. From British Museum.

As already observed, the same process can be traced in Egypt in the earliest ages. In India it continued as late as the 4th or 5th centuries A.D. In Greece—in what was not borrowed from the Egyptians—the change took place about the same time as in Lycia, that is to say in the 6th century B.C. It is important to observe here that, wherever the process can be detected, it is in vain to look

for earlier buildings. It is only in the infancy of stone architecture that men adhere to wooden forms, and as soon as habit gives them familiarity with the new material they abandon the incongruities of the style, and we lose all trace of the original form, which never reappears at an after age.

All the original buildings of Lycia are tombs or monumental erections of some kind, and generally may be classed under two heads, those having curvilinear, and those having rectilinear roofs, of both which classes examples are found structural—or standing alone—and also specimens cut in the rock. The woodcut (No. 151) represents a perfect constructed tomb. It consists first of a double podium, which may have been in all cases, or at least generally, of stone. Above this is a rectangular chest or sarcophagus, certainly copied from a wooden form; all the mortises and framing, even to the pins that held them together, being literally rendered in the stonework. Above this is a curvilinear roof of pointed form, which also is in all its parts a copy of an original in wood.



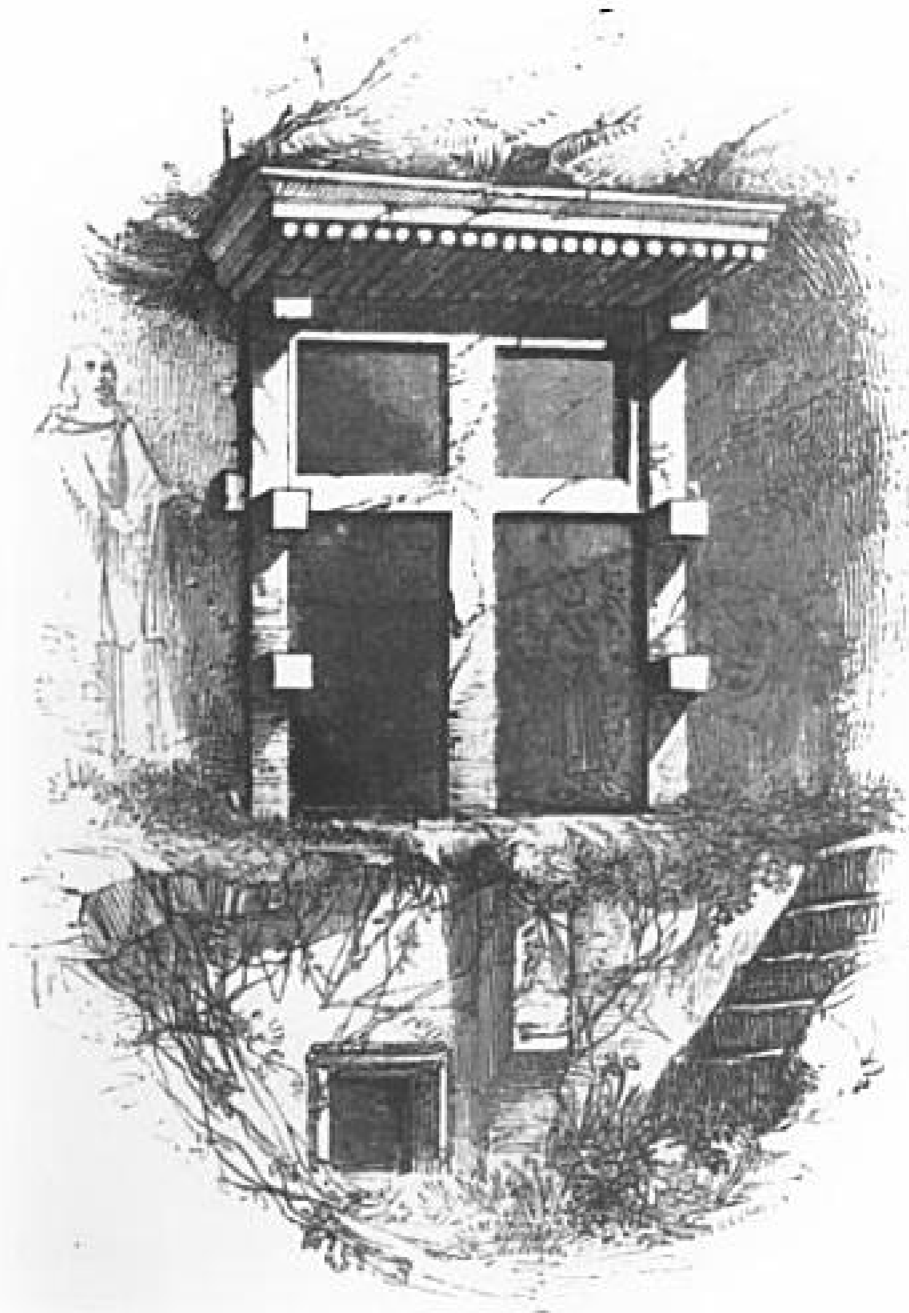
152. Rock-cut Lycian Tomb. From Forbes and Spratt's Lycia.

When these forms are repeated in the rock the stylobate is omitted, and only the upper part represented, as shown in the annexed woodcut (No. 152).

When the curvilinear roof is omitted, a flat one is substituted, nearly similar to those common in the country at the present day, consisting of beams of unsquared timber, laid side by side as close as they can be laid, and over this a mass of concrete or clay, sufficiently thick to prevent the rain from penetrating through. Sometimes this is surmounted by a low pediment, and sometimes the other framing stands out from the rock, so as to give the entrance of the tomb something of a porchlike form. Both these forms are illustrated in the two woodcuts (Nos. 153, 154), and numerous varieties of them are shown in the works of Sir Charles Fellows and others, all containing the same elements, and betraying most distinctly the wooden origin from which they were derived.



153. Rock-cut Lycian Tomb. From Texier's Asie Mineure.



154. Rock-cut Lycian Tomb. From Sir Charles Fellows's work.

The last form that these buildings took was in the substitution of an Ionic façade for these carpentry forms: this was not done apparently at once, for, though the Ionic form was evidently borrowed from the neighbouring Greek cities, it was only adopted by degrees, and even then betrayed more strongly the wooden forms from which its entablature was derived than is usually found in other or more purely Grecian examples. As soon as it had fairly gained a footing, the wooden style was abandoned, and a masonry one substituted in its stead. The whole change took place in this country probably within a century; but this is not a fair test of the time such a process usually takes, as here it was evidently done under foreign influence, and with the spur of the example of a stone-building people. We have no knowledge of how long it took in Egypt to effect the transformation. In India, where the form and construction of the older Buddhist temples resemble so singularly these examples in Lycia, the process can be traced through five or six centuries; and in Persia it took perhaps nearly as long to convert the wooden architecture of the Assyrians into even the imperfect stone architecture of the Achæmenians. Even in their best and most perfect buildings, however, much still remained to be done before the carpentry types were fairly got rid of, and the style entitled to rank among the masonic arts of the world.



155. Ionic Lycian Tomb. From Texier's Asie Mineure.

The remaining ancient buildings of Asia Minor were all built by the Greeks and Romans, each in their own style, so that their classification and description belong properly to the chapters treating of the architectural history of those nations, from which they cannot properly be separated, although at the same time it is true that the purely European forms of the art are considerably modified by the influence of local Asiatic forms and feelings. The Ionic order, for instance, which arose in the Grecian colonies on the coast, is only the native style of this country Doricized, if the expression may be used. In other words, the local method of building had become so modified and altered by the Greeks in adapting it to the Doric, which had become the typical style with them, as to lose almost all its original Asiatic forms. It thus became essentially a stone architecture with external columns, instead of a style indulging only in wooden pillars, and those used internally, as there is every reason to suppose was the earlier

form of the art. The Ionic style, thus composed of two elements, took the arrangement of the temples from the Doric, and the details from the Asiatic original. The Roman temples, on the contrary, which have been erected in this part of the world, in their columns and other details exactly follow the buildings at Rome itself; while, as in the instances above quoted of Jerusalem, Palmyra, Kangovar, and others, the essential forms and arrangements are all local and Asiatic. The former are Greek temples with Asiatic details, the latter Asiatic temples with many Roman masonic forms. The Greeks in fact were colonists, the Romans only conquerors; and hence the striking difference in the style of Asiatic art executed under their respective influence. We shall have frequent occasion in the sequel to refer to this difference.

BOOK V.



CHAPTER I.

EGYPT.[1]

CONTENTS.

Introductory remarks — Dimensions of the Pyramids — Pyramids of Gizeh — Saccara — Architecture of the Pyramids.

We have now traced the history of all the known styles of architecture of the Eastern World, from their origin to the time when they lost their local individuality in the great reactionary movements that took place from time to time from the West towards the East. It now remains to take up the thread of the Western styles of art at their earliest dawn in Egypt, and to trace them through the history of that great band of nations living round the shores of the Mediterranean Sea, who carried forward the progress of the art, without any interruption of its continuity, from its first appearance on the banks of the Nile till it sunk with the fall of the Roman Empire, to make way for the era of Christian forms and Christian art.

Even, however, in this limited space, perfect continuity of narrative will be impossible. To prevent confusion, and the necessity of recurring to a subject after it has been finished, it will be expedient first to complete the history of Egyptian art from the earliest time till its extinction in the time of the Roman Emperors; then to go back 12 or 13 centuries to commence the early history of Pelasgic art in Greece, and trace the history of the Grecian styles down to the time of Alexander the Great, and a third time to revert to a period nearly as early, or to the commencement of Etruscan art in Italy. Finally it will be necessary to trace the development of art in Rome during the period when that great city gradually absorbed Greece and Egypt in the vast vortex of her ambition, till all these forms of art perished with the

[1] It will be seen that in this chapter the whole subject of Egyptian chronology is omitted. It has been thought necessary to do this on account of the largeness of the subject and of the great difference of opinion which prevails upon it. The actual *difference* between the best authorities for the date (for instance) of the Great Pyramid is no less than 2400 years. It has been thought better, in a work like the present, to exclude the question altogether than to adopt a system which is so far from settled, without the possibility of stating the grounds on which that system rests. The question is examined in an Appendix to the 'Principles of Beauty in Art,' by the Author.

early civilization of the Western World, in the downfall of the Roman Empire after the age of Constantine the Great.

Without attempting here to assign accurate, or even approximate dates, we will endeavour to state what is beyond all dispute, and what must be borne in mind in order to form any correct idea at all of the various classes of remains in this ancient land.

In the accounts which have been transmitted to us by the Egyptians themselves, their early history and chronology are divided according to the dynasties of their kings, of which they enumerate no less than 29. Most of these are obscure and unimportant. The great epochs were the 4th dynasty, which reigned at Memphis, to which the pyramids of Gizeh are assigned; the 12th, of which Osortasen was the great monarch and Thebes the capital; and the 18th and 19th, which followed on the expulsion of the intruders known as the Shepherd Kings. The early part of the 18th dynasty was rendered illustrious by the exploits of several kings bearing the name of Thothmes. After their period a second interruption took place under foreign kings who were worshippers of the sun, probably a remnant of the Shepherd Kings. On their expulsion the original line was restored, and during the reigns of Manepthah and the two first kings named Rhamses or Remeses attained the highest pitch of splendour.

The first king of the 19th dynasty, known locally as the third Rhamses, is clearly identified with the great conqueror known by the Greeks as Sesostris. This and the previous dynasty are those which furnish us with the most magnificent architectural remains; and from the conclusion of this brilliant epoch began the decline of Egyptian art and dominion.

The architectural history of Egypt thus divides itself into two great periods. The first is represented by the Pyramids, all the principal of which stand in the neighbourhood of Memphis, the royal city of the old kingdom of Lower Egypt. The second period is represented by the temples erected by the kings of the later dynasties, who reigned at Thebes in Upper Egypt. All chronological systems, however widely differing in the actual dates assigned, concur in placing the pyramids of Egypt as the oldest of all architectural objects, either in existence or of which any record or description whatever is preserved. Their relative age, as well as that of the other monuments, is known beyond a doubt. Previous to the rise of the 12th or 1st great Theban dynasty we have a series of nearly 50 royal pyramids or tombs, with contemporary sepulchres and smaller monuments in their neighbourhood, which enable us to understand, and very completely to illustrate, the whole progress of the art of this earlier kingdom. This being the case, it really is not necessary to attempt to ascertain the exact period which elapsed between their erection and that of the monuments which succeeded them. It is sufficient to know that they form the oldest group of monuments in Egypt, and, so far as we can ascertain, also the oldest in the world. We have every reason to look upon them as examples of a style absolutely independent of all previous efforts of human art either in Egypt itself or in any contemporary nation.

With these evidences of extreme antiquity we are startled to find Egyptian art nearly as perfect in the oldest pyramids as in any of the later, or as it became afterwards, when all the refinement and all the science of the Greeks had been applied to its elaboration. Even at the earliest period the Egyptians had attained the art of transporting the heaviest blocks of granite from Syene to Memphis, of squaring them with a mathematical precision never surpassed, of polishing them to a surface as smooth as glass, and of raising them higher than such blocks have ever been raised in any buildings in the world, and setting them with a truth and precision so wonderful, that they now lie there without flaw or settlement, after thousands of years have passed over them, and swept the more modern buildings of other nations from the face of the earth, or laid them in undefinable and indiscriminate ruin.

At that early period, too, the art of sculpture was as perfect as it ever afterwards became: the hieroglyphics are as perfectly cut, as beautifully coloured, and told their tale with the same quaint distinctness which afterwards characterised them. It is in vain to speculate on how long it must have taken any nation to reach this degree of perfection, more especially a nation so little progressive as the Egyptians were. We must content ourselves with the fact, and in our wonder at its immensity learn from it more humble notions of our own antiquity and knowledge, and more extended views of ancient history. Above all, we acquire a more exalted admiration for the people who, long before the dawn of civilisation among other nations, had already reached so high a pitch of greatness, and achieved that position which enabled them to influence and instruct all subsequent ages in their science and their philosophy.

Turning, then, to the Pyramids—the oldest, largest, and most mysterious of all the monuments of man's art now existing—we find that all those in Egypt are situated on the left bank of the Nile, just beyond the cultivated ground, and on the edge of the desert, and all the principal ones within what may fairly be called the Necropolis of Memphis. Lepsius, it is said, has discovered and explored about 50 of these, all which appear to be royal sepulchres. This alone, if true, would suffice to justify us in assigning a duration of 1000 years to the dynasties of the pyramid-builders, which is about the date we acquire from other sources.

The three great pyramids of Gizeh are the most remarkable and the best known of all those of Egypt. Of these the first, erected by Cheops, or, as he is now more correctly named, Suphis, is the largest; but the next, by Chepheren, his brother, is scarcely inferior in dimensions; the third, that of Mycerinus, is very much smaller, but excelled the two others in this, that it had a coating of beautiful red granite from Syene, while the other two were revêted only with the beautiful limestone of the country. Part of this coating still remains near the top of the second; and Colonel Vyse was fortunate enough to discover some of the coping-stones of the Great Pyramid buried in the rubbish at its base, sufficient to indicate the nature and extent of the whole, and to

show that it was commenced from the bottom and carried upwards, not at the top, as it has sometimes been thoughtlessly asserted.

The dimensions of these three, as ascertained by the copings, are as follows :—

	Length of base.	Height.	Area in square feet.	Angle of side.	Angle of passage.
	Feet.	Feet.		° ′	° ′
Cheops	764	480	543,696	51·50	26·41
Chepheren	707	454	499,849	52·20	25·55
Mycerinus	354	218	125,316	51·	26·2 [1]

From this it will be seen that the area of the Great Pyramid (more than 13 acres) is more than twice the extent of that of St. Peter's of Rome, or any other building in the world. Its height is equal to the highest spire of any cathedral in Europe; for, though it has been attempted to erect higher buildings, in no instance has this yet been successful. Even the third pyramid covers more ground than any Gothic cathedral, and the mass of materials it contains far surpasses that of any erection we possess in Europe.

All the pyramids (with one exception) face exactly north, and have their entrance on that side—a circumstance the more remarkable, as the later builders of Thebes seem to have had no notion of orientation, but to have placed their buildings and tombs, almost as if to avoid regularity, in every conceivable direction. Instead of the entrances to the pyramids being level, they all slope downwards—generally at angles of about 26° to the horizon—a circumstance which has led to an infinity of speculation, as to whether they were not observatories, and meant for the observation of the pole-star, &c. All these theories, however, have failed, for a variety of reasons it is needless now to recapitulate; but among others it may be mentioned that the angles are not the same in any two pyramids, though built within a few years of one another, and in the twenty which were measured by Colonel Vyse they vary from 22° 35′ to 34° 5′. The angle of the inclination of the side of the pyramid to the horizon is more constant, varying only from 51° 10′ to 52° 32′, and in the Gizeh pyramids the angle of the passage seems to have been intended to have been about one-half of this. Beyond this it is difficult to proceed, unless we may perhaps obtain an approximation to the principle by which the builders seem to have been governed by the following simple calculation. Divide the circle into 28 parts, which, as the Egyptians used weeks and lunar reckoning, is by no means an improbable division. Let every 28th part be represented by a, which will thus be equal to 12°.857. Multiply this by 2, 3, 4, and 5, and we obtain thereby very nearly the

[1] The measures quoted in the text are all taken from the elaborate surveys made by Mr. Perring for Colonel Vyse, which are by far the most complete and correct which have yet been published. It is necessary, however, to warn the reader that Mr. Perring published two sets of measurements, those from actual observation, which are those followed in the text, and another set corrected according to his theory of what they ought to have been, supposing every part to have been set out of an even number of Egyptian cubits. In most instances his theory agrees pretty closely with his observations, but is generally more likely to mislead than guide the reader.

mean angle of all the different parts of the pyramid.[1] But as no two pyramids follow the same rule, it is obvious that this or any other explanation must fail, if strictly applied to any one, to be equally applicable to the others.

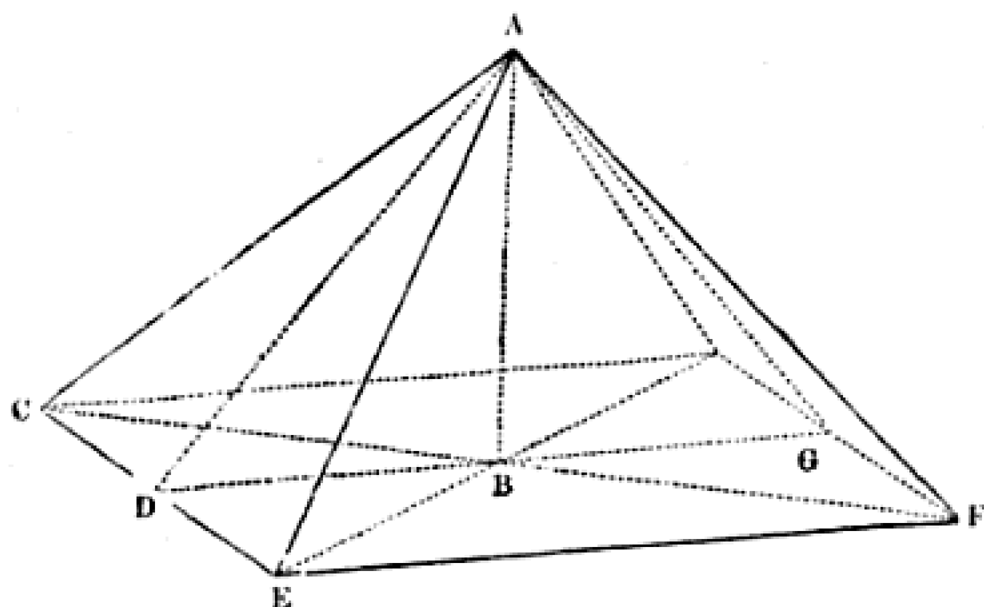
The most plausible theory seems to be, that the faces of the pyramid were intended to be practically 4 equilateral triangles, laid against one another, and meeting at the apex. For instance, in the three great pyramids at Gizeh, the ratios of the sloping edges to the base are as follows:—

	Base.	Length of sloping edge.	Difference.
Great Pyramid	764 feet. . .	720 feet. . .	44 feet.
Second Pyramid	707 ,, . .	672 ,, . .	35 ,,
Third Pyramid	354 ,, . .	330 ,, . .	24 ,,

It will be observed that the difference is least—about 5 per cent.—in the second pyramid, the one which retains the greatest part of its coping; and there may be some error in the measurement of the others derived from a single coping-stone.

With any other people than the Egyptians this might be considered a sufficient explanation—all the other parts being multiples or submultiples of the angles derived from this fact. But the Egyptians were such excellent mathematicians and such perfect builders in those times, that this can only be considered as an approximation towards the solution of the problem; but it is one sufficient for our empirical rule to attain the general form and dimension of a pyramid, using the multiples given in the preceding page.

The principal dimensions of the Great Pyramid have been given, to which it may be added that the entrance is about 47 ft. 6 in. above the base, on the 15th step or platform. There are in all 203 such



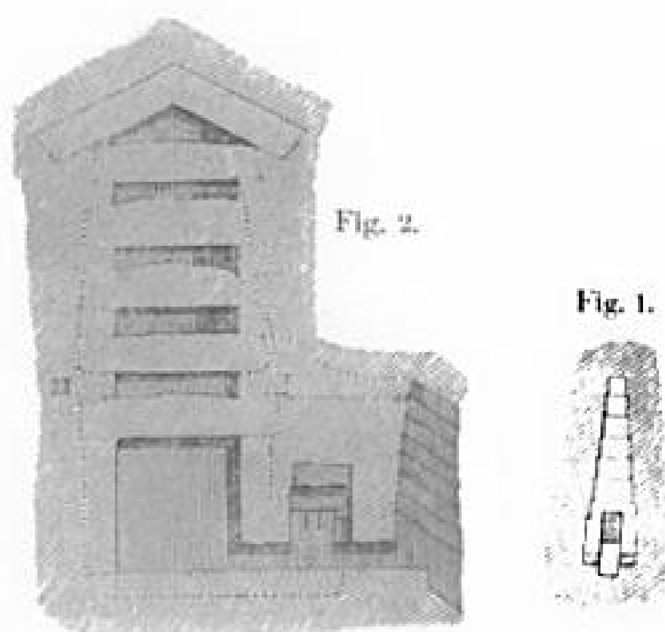
156.

	Great Pyramid.	Second Pyramid.	Third Pyramid.	Angles calculated from the 28th of a circle (a).
[1] Angle ADB . . .	51° 20′ . .	52° 21′ . .	51° 10′ . .	$4a = 51·428$
,, DAG . .	77 19 . .	75 4 . .	77 38 . .	$6a = 77·142$
,, ACB . .	41 28 . .	42 30 . .	41 18 . .	$3a = 38·571$
,, CAF . .	97 3 . .	94 59 . .	97 23 . .	$7\frac{1}{2}a = 96·428$
,, AEF . .	58 0 . .	58 24 . .	58 6 . .	$4\frac{1}{2} = 57·856$
,, EAF . .	63 59 . .	62 50 . .	63 46 . .	$5a = 64·285$
Passages	26 33 (?) . .	25 55 . .	27 34 . .	$2a = 25·714$

steps. Their average height is nearly 2 ft. 6 in., but they diminish in height—generally speaking, but not uniformly—towards the top. The summit now consists of a platform 32 ft. 8 in. square; so that about 24 ft. is wanting, the present actual height being 456 ft. It contains 2 chambers above-ground, and 1 cut in the rock at a considerable depth below the foundations.

The passages and chambers are worthy of the mass; all are lined with polished granite; and the ingenuity and pains that have been taken to render them solid and secure, and to prevent their being crushed by the superincumbent mass, raise our idea of Egyptian science higher than even the bulk of the building itself could do.

Towards the exterior, where the pressure is not great, the roof is flat, though it is probable that even there the weight is throughout discharged by 2 stones, sloping up at a certain angle to where they meet, as at the entrance. Towards the centre of the pyramid, however, the passage becomes 28 ft. high, and assumes the form of inverted stairs, as shown in the section (fig. 1), till it contracts so much at the top that no pressure can hurt it. Nowhere, however, is this ingenuity more shown than in the royal chamber, which measures 17 ft. 1 in. by 34 ft. 3 in., and 19 ft. in height. The walls are lined and the roof is formed of splendid slabs of Syenite, but above the roof 4 successive chambers, as shown in the annexed section (fig. 2), have been formed, each divided from the other by slabs of granite, polished on their lower surfaces, but left rough on the upper, and above these a 5th chamber is formed of 2 sloping blocks to discharge the weight of the whole. The first of these chambers has long been known; the upper four were discovered and first entered by Colonel Vyse, and it was there that he discovered the name of the founder. This was not engraved as a record, but scribbled in red paint on the stones, apparently as a quarry-mark, or as an address to the king, and accompanied by something like directions for their position in the building, sufficient, however, to identify completely the founder and the time of the erection of the pyramid. This is the only really virgin discovery in the pyramids, as they have all been opened either in the time of the Greeks or Romans, or by the Mahometans, and an unrifled tomb of this age is still a desideratum. Until such is hit upon we must remain in ignorance of the real mode of sepulture in those days, and of the purpose of many of the arrangements of these mysterious buildings.



157. Section of King's Chamber and of Passage in Great Pyramid. Scale 50 ft. to 1 in.

The portcullises which invariably close the entrances of the sepulchral chamber in the pyramids are among the most curious and inge-

nious of the arrangements of these buildings. Generally they consist of great cubical masses of granite, measuring 8 or 10 ft. each way, and consequently weighing 50 or 60 tons, and even more. These were fitted into chambers prepared during the construction of the building, but raised into the upper parts, and, being lowered after the body was deposited, closed the entrance so effectually that in some instances it has been found necessary either to break them in pieces, or to cut a passage round them to gain admission to the chambers. They generally slide in grooves in the wall, to which they fit exactly, and altogether show a degree of ingenuity and forethought very remarkable, considering the early age at which they were executed.

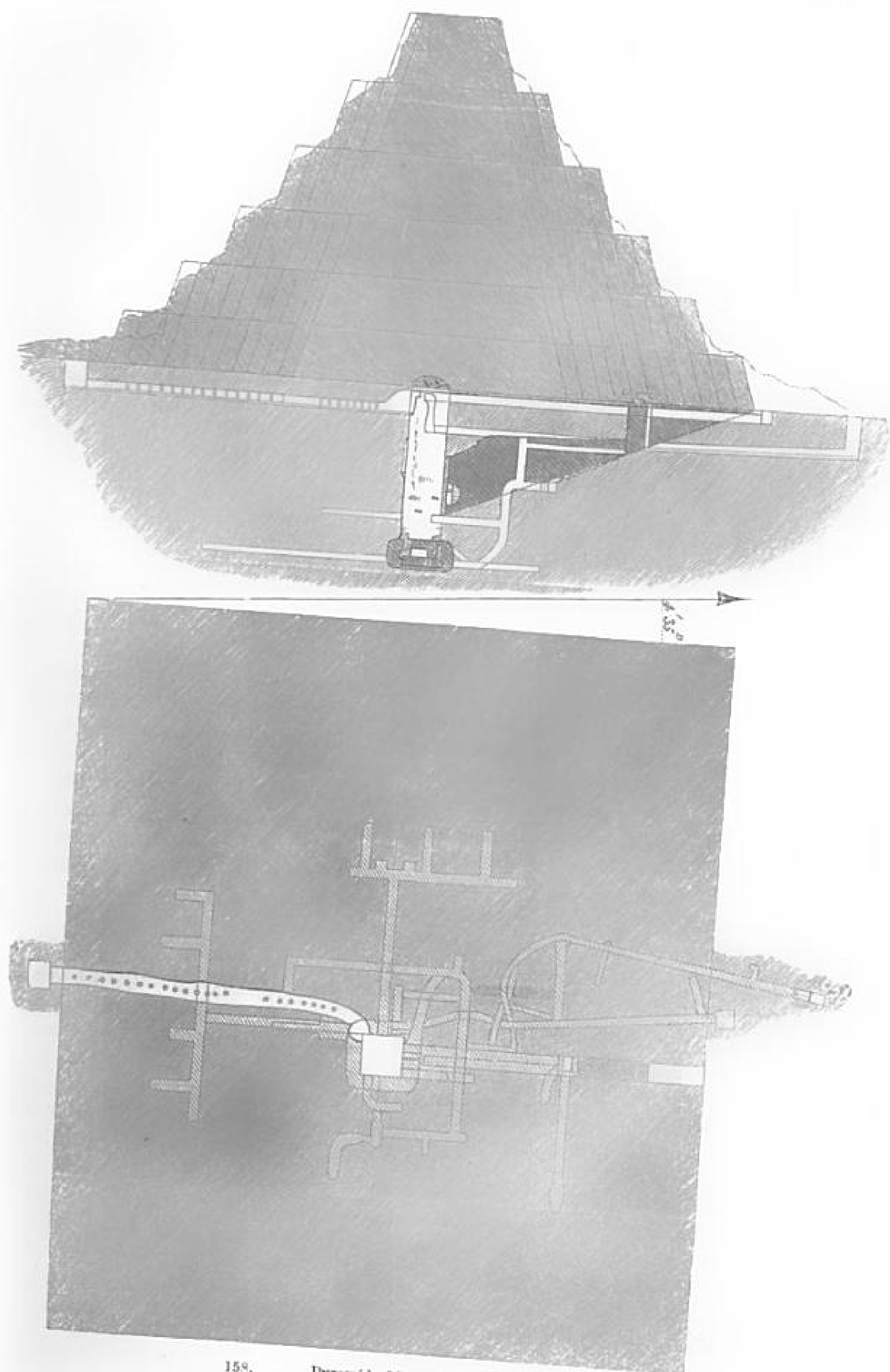
In the second pyramid one chamber has been discovered partly above ground, partly cut in the rock. In the third the chambers are numerous, all excavated in the rock; and from the tunnels that have been driven by explorers through the superstructures of these two, it is very doubtful whether anything is to be found above ground. It is observable that the measurements of the third pyramid are as nearly as possible the exact half of those of the second. This cannot have been unintentional.

The exceptional pyramid above alluded to is that of Saccara, shown in the annexed plan and section (woodcut No. 153), both to the scale of 100 ft. to 1 in. It is the only pyramid that does not face exactly north and south. It is nearly of the same general dimensions with the pyramid of Chepheren, but its outline, the disposition of its chambers, and the hieroglyphics found in its interior, all seem to point to an imitation of the old form of mausolea by some king of a far more modern date.

All the old pyramids do not follow the simple outline of those of Gizeh. That at Dashoor, for instance, rises to half its height with a slope of 54° to the horizon, but is finished at the angle of 45°, giving it a very exceptional appearance; and that of Meydoon has more the appearance of a tower, its angle being 74° 10′. Two smaller towers rise from its summit, in the manner in which it is supposed Assyrian pyramids were usually constructed. The latter, indeed, seems not to have been an unusual mode of building pyramids in stories or stages, each less than the other, but it is possible that this was only temporary or preparatory, and that it was intended eventually to smooth the whole down to the more orthodox form of a straight-sided pyramid.

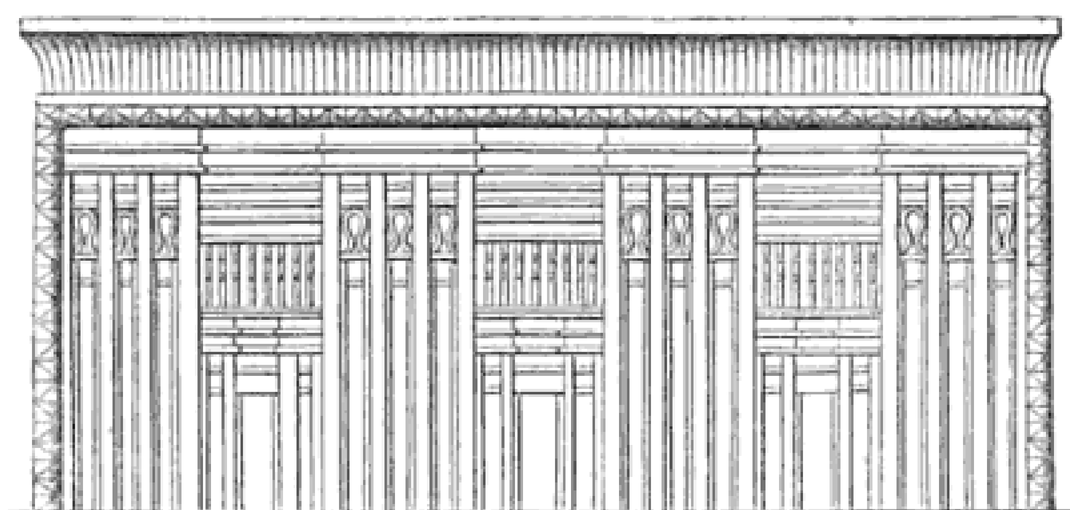
The architecture of the age of the pyramids has not yet been sufficiently illustrated; but when the great Prussian work is finished, this reproach will be removed, as Lepsius seems to have paid especial attention to the structural tombs and buildings around the pyramids, many or most of which are contemporary, or nearly so, with the oldest of them.

Like all early architecture, it shows evident symptoms of having been borrowed from a wooden original. The lintels of the doorways are still rounded, and the walls are mere square posts, grooved and jointed together, and every part of it as unlike a stone architecture as can possibly be seen. Yet the pyramids themselves, and those tombs



158. Pyramid of Saccara.
From Colonel Vyse's work.
Scale 100 ft. to 1 in.

which are found outside, generally are far removed from wooden forms; and it is only when we find the Egyptian indulging in decorative art that we trace this more primitive form. There are two doorways of this class in the British Museum, and many in that of Berlin; but perhaps one of the best illustrations of the architectural forms of that day is the sarcophagus of Mycerinus, unfortunately lost on its way to England. It represents a palace, with all the peculiarities found on a larger scale in the buildings which surround the pyramid, with the peculiar cornice and still more peculiar roll or ligature on the angles, most evidently a carpentry form, but which the style retained to its latest day.



159. Sarcophagus of Mycerinus, found in Third Pyramid.

In many of the tombs surrounding the pyramids square piers are found supporting the roof, sometimes, but rarely, with an abacus, generally without any carved work, though it is more than probable that they were originally painted with devices upon which they depended for their ornament. In most instances they look more like fragments of a wall, of which the intervening spaces had been cut away, than pillars in the sense in which we usually understand the word; and in all instances in the early ages they must be considered more as utilitarian expedients than as parts of an ornamental style of architecture.

From the knowledge, however, that we do possess of this style, we may safely assert that it is one of the least beautiful artistically of those we are acquainted with, and infinitely inferior to the Theban style which succeeded it. The early Egyptians built neither for beauty nor for use, but for eternity. To this last they sacrificed every other feeling. In itself nothing can be less artistic than a pyramid. A tower, either round or square, or of any other form, and of the same dimensions, would have been far more imposing, and if of sufficient height—the mass being the same—might almost attain to sublimity; but a pyramid never looks so large as it is, and not till you almost touch it can you be brought to believe that its dimensions are so great as they are. This is owing principally to all its parts sloping away from the eye instead of boldly challenging observation; but, on the other hand, no form is so stable, none so capable of resisting the injuries of time or force, and

none, consequently, so well calculated to attain the object for which the pyramids were erected. As examples of technic art, they are unrivalled among the works of men, but they rank among the lowest if judged by the æsthetic rules of architectural art.

The same character belongs to the tombs and buildings around them: they are low and solid, and possess neither beauty of form nor any architectural feature at all worthy of attention or admiration, but they have lasted nearly uninjured from the remotest antiquity, and thus have attained the object their builders had principally in view when they designed them.

CHAPTER II.

THEBAN MONARCHY.

CONTENTS.

Historical notice — Pillars — Temple-Palaces — Rhamession — Karnac.

The moment we pass the local limits of the necropolis of Memphis, or chronologically come below the dynasties of the pyramid-builders, we are at once aware of being in the presence of a new style of architecture, differing in almost every respect from that which preceded it, and in many characteristics antagonistic to it to a remarkable extent.

We have no longer any pyramids, nor any traces of that quaint style of wooden architecture pointed out above. Obelisks become one of the most remarkable and striking features of the new style, all of them, so far as we know, situated on the eastern side, as all the pyramids were on the western side of the Nile. Columnar architecture becomes also general, comprising two of the forms of columns, afterwards more generally used; the Proto-Doric, so called from its extreme similarity to the Greek order of that name, and those with what is called the lotus-bud capital, from its supposed resemblance to the bud of that sacred plant. It is in this age that the great temple at Karnac was commenced by Osortasen, the first temple of which we have any cognizance in Egyptian history; and under another king of the same dynasty—Amenemha—the Labyrinth was also begun, though when it was finished, or how far it was carried by him, are as yet by no means clear. Nor is it known whether the pyramid that forms part of the group was built by that king, or belongs to some prior dynasty.

Under the kings of this period Egypt enjoyed great prosperity; the face of the country was changed; a new style of art and new manners were introduced. This state of things was suddenly checked by the Shepherd invasion, the greatest of all the afflictions which Egypt suffered during her long career, which humbled her into the condition of a subject province. It is by no means satisfactorily settled, even now, who these Shepherds were, though they must probably have been a race inhabiting either the Valley of the Euphrates, or some of the countries between that region and the Valley of the Nile, who, entering by the Isthmus of Suez, took possession of the whole country from the Cataract to the sea. The detestation in which the memory of these intruders was ever after held in Egypt testifies to the oppressiveness of their rule, and to the disgust which their barbarism inspired among their far more civilised subjects. We read that, during the steward-

ship of Joseph "the Egyptians might not eat bread with the Hebrews; for that is an abomination to the Egyptians," and that "every shepherd is an abomination unto the Egyptians."[1]

The descendants of the old Egyptian kings, however, still existed, though they cannot be said to have reigned till lapse of time brought decay and corruption into the ranks of the Shepherd kings, when, joining with the other petty princes of native descent, they rose, expelled the Shepherd races, and restored the Theban Empire with even greater glory than before. Under their rule Egypt became the most powerful state in the ancient world, and attained a point of greatness in arms and art which she never surpassed, and which, in so far as architecture is concerned, is unequalled by any state which has existed from that time to this.

On the restoration of the old Egyptian monarchs they brought back with them the style of art which had prevailed before the interruption caused by their subjection, unaltered in all respects. The two periods, therefore, must be taken together as one group. As this group comprehends all that is best and greatest in Egyptian art, it will be necessary to treat it rather more in detail and more methodically than the previous style.

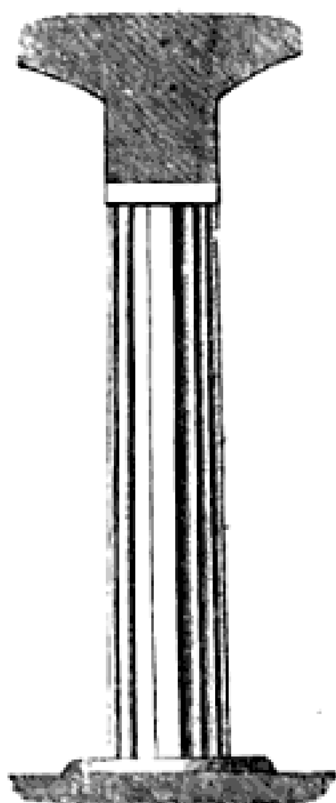
PILLARS.

Egyptian pillars are of very various forms. Of these we must be content here to describe a few, which appear the most distinct, and typical of the general style of art.

The simplest form is that of a plain square pier, with or without an abacus, as used in the tombs about the pyramids. Sir Gardner Wilkinson suggests that it was derived from the supports left in quarries to sustain the superincumbent strata, but its origin may be even earlier and simpler than this, for it is evident that, wherever a roof or verandah or open space is to be covered, whether the masonry is of brick or of stone, a square pier is the most obvious, the simplest, and mechanically the best mode of supporting a beam or beams. Such square piers were probably used in the bazaars, the houses, and temples of Memphis, before even the time when the pyramids were erected. When built of brick or a rubble stone, an abacus, either of flat tiles or of wood, becomes indispensable, to diffuse the pressure of the beams equally. Piers of masonry in regular flat courses were used contemporaneously with those of brick or rubble. In none of these is it necessary that the abacus should project beyond the line of the pillars, nor in fact does this appear to have been usual in any period of Egyptian art. The next form that this pillar took was that of an octagon, produced by cutting off the angles of the square: an improvement which, if not indispensable for pillars on the exterior of buildings, was nearly so internally, where the space occupied and the sharp square angles were particularly awkward. This step made, it was easy to carry it further by cutting off the angles of the octagon, so as to make

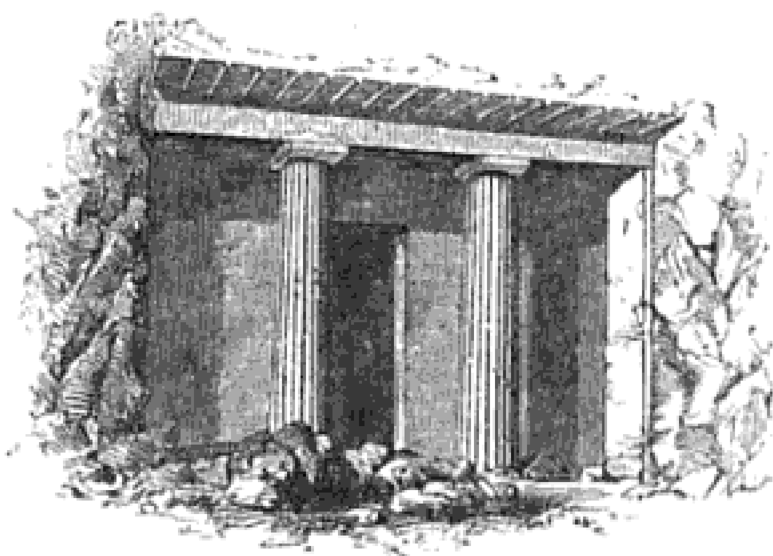
[1] Genesis xliii. 32; xlvi. 34.

it a pillar of 16 sides, and again of 32, as was done afterwards in India, but with this difference, that in that country all these polygons are found in the same pillar, while here the same one is always carried from the base to the summit. All these variations required a marked and projecting abacus, to correspond with the lines of the beams or entablature that rested upon them, which was not indispensably necessary when merely a square pier was employed.


160. Pillar at Beni Hassan.

The last improvement, and that which brought it nearest the Grecian form, was hollowing out the faces of the polygon with a reversed curve, so as to produce what is called fluting. All these kinds of pillars are found perfected in very early tombs, and may have been used from the most remote antiquity. The earliest examples exhibiting all these improvements that have come down to our age are those at Beni Hassan, excavated during the supremacy of the 12th dynasty. There both 8 and 16 sided pillars are found supporting what may have been either a stone or wooden architrave, and sometimes, as in this view (woodcut No. 161), what certainly represents a wooden roof. Internally, as shown in woodcut No. 160, it looks very much as if a brick arch were thrown from range to range of these columns, but, being cut in the rock, it is difficult to be certain on this point.

These proto-Doric pillars occur in the rock-cut temples of Nubia, of the age of Rhamses II., and elsewhere, sometimes with a flat band down the centre, containing an inscription in hieroglyphics; generally they have all the characteristics of the Grecian order, except the echinus or beautiful carved member under the abacus, which the Egyptians never used.

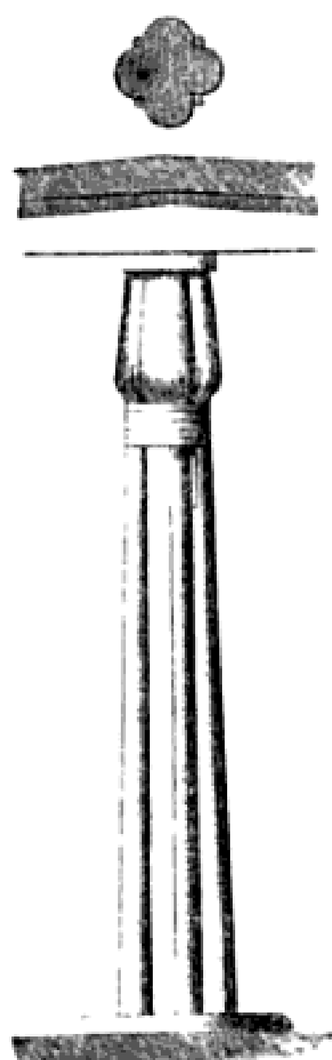

161. Tomb at Beni Hassan.

One of the oldest forms of pillars in Egypt is represented in woodcut No. 162. It is evidently derived from a wooden post used to support a roof internally, and its peculiar shape may be meant, either as a reproduction in carving of what were originally stripes of colour, or as stems of lotus, or of some kind of reeds, coupled and banded together. Its capital is not unlike the shape of a bud. It is found with the proto-Doric at Beni Hassan, and it continued the favourite order throughout the whole Pharaonic period, though frequently a plain circular shaft was substituted for the complex one.

At Beni Hassan the shaft tapers regularly from the base to the

necking of the capital, but in the great examples executed during the 18th dynasty the pillars contract again at the base, as in the next woodcut, which gives a degree of lightness and elegance to their otherwise too massive forms that is singularly pleasing.

The best example of the order is found in the lateral colonnades of the great hall at Karnac (woodcut No. 170 farther on), but there are scarcely any of the temples of the great age that have not specimens of it. At first sight its form is so peculiar, and so unmeaning, that it has never been copied out of Egypt, though all her other orders are found elsewhere.


162. Pillar from Beni Hassan.

A large class of pillars have capitals resembling the calyx or bell of a flower, but the form is so conventional, and, as no examples of the order are found of a date anterior to the great 18th dynasty, we find it only so far removed from its origin, that it is difficult to trace it backward to its source.

The typical example of this style is found in the Hypostyle Hall at Karnac, where the pillars are 70 ft. in height to the under side of the architrave, and more than half that in circumference at a little above the base.

Those, however, of the Rhamession (woodcut No. 163), on the other side of the Nile, though only 30 ft. in height, are perhaps more graceful, though certainly neither so majestic nor so characteristic of Egyptian art.

Of these capitals the papyrus cup may be considered as the typical form, but there are also in Egypt some decidedly lotus forms. Sometimes the bell of the capital is adorned with palm-leaves, or reeds, or conventional vegetable forms. In the Ptolemaic period the Greeks showed a peculiar preference for this order, from its resemblance to their favourite Corinthian order, which in fact was copied from it, and they adorned it, not only as the Egyptians had done, but in fifty fantastic ways, many of them far from being conducive to its appropriateness or architectural beauty.

Another class of pillars is, as far as taste is concerned, the most questionable of any. Its peculiarity consists in employing Isis heads or figures of Typhon, or other deities, as the ornaments of its capitals.

The origin of these is easily explained; for early examples exist showing the Isis head, either painted or sculptured in low relief, on the face or faces of square piers, and gradually the relief and prominence of the head became greater and greater, and the column more and more attenuated, till we come to the typical specimen of Dendera (woodcut No. 165), of the Roman age. It cannot, however, be regarded as an example of the bad taste of modern times, as an Isis-headed capital, represented in the woodcut No. 164, is found

at Sedinga in Ethiopia, of the age of Amunopth III., of the 18th dynasty.



163. Pillar, from Rhamession, Thebes.



164. Pillar, from Sedinga.

This order must not be confounded with what are sometimes, though improperly, called Caryatide columns. In Egypt there are many square piers of the class described above, with Colossi placed in front of them, one of which is shown in woodcut No. 166, but the figures neither support the architrave, as in Greece, nor do they serve to strengthen the pillar, though attached to it. They are in fact statues ranged architecturally, not architectural objects at all. No doubt they heighten the architectural effect, and constitute some of the most imposing groups of Egyptian art: still they are as distinct from the architecture as the adjacent Sphinxes or seated Colossi with which they unite to produce that grandeur of effect the Egyptians knew so well

how to create, by combining the arts of the builder, the sculptor, and the painter, each in his separate province, but still each working out the elaboration of one grand design.



165. Pillar, from the Portico at Dendera.

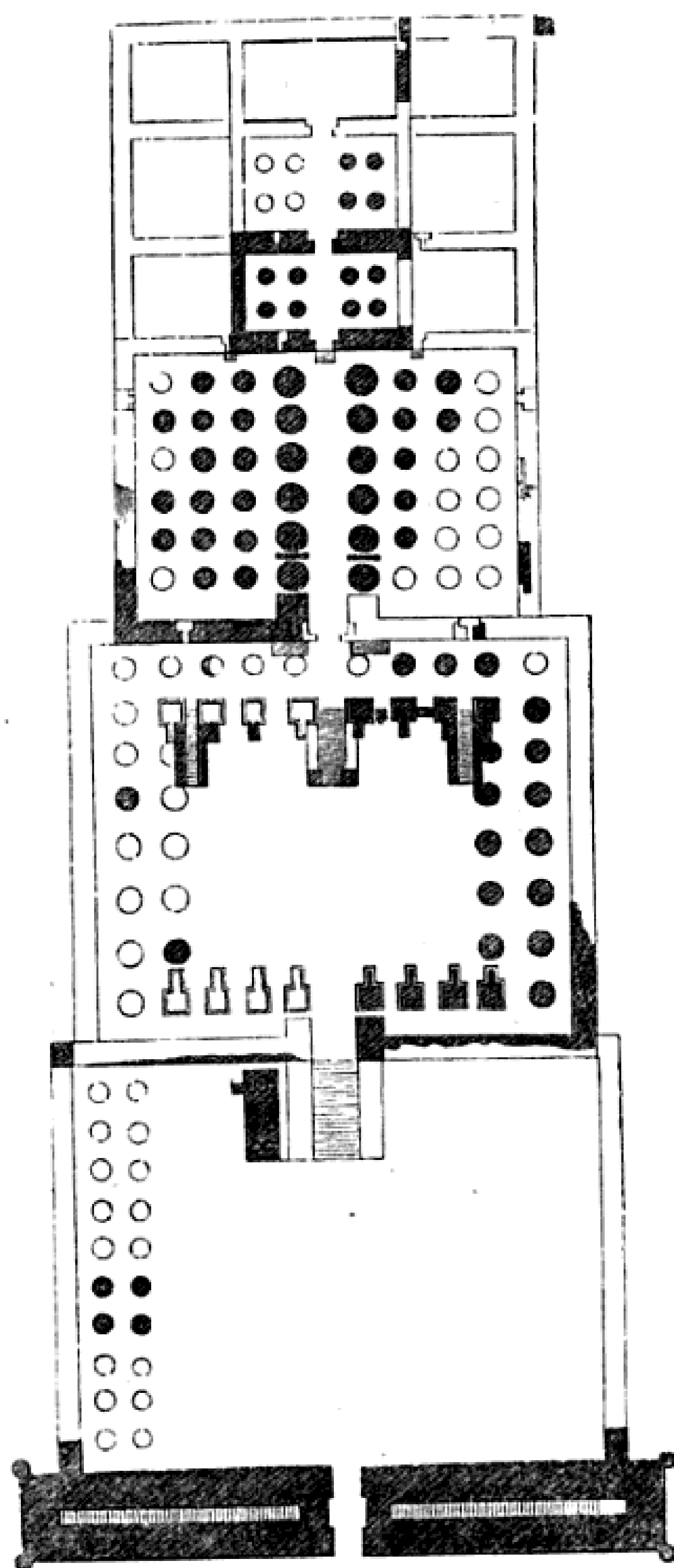


166. Caryatide Pillar, from the Great Court at Medinet-Habou.

PLANS.

The plans of Egyptian temples are as various as the forms of their pillars; so much so, indeed, as to make it very difficult to describe them. The greatest and noblest is that at Karnac, but, like most Indian temples, it is an aggregation of parts around a small but sacred centre; and having been gradually elaborated during several centuries, it presents no uniformity of plan or design. The temple known as the

Rhamession, on the opposite side of the Nile, is better therefore for our purpose. The whole of it was built by Rhamses the Great, in the 15th century B.C., as will be seen from the plan, drawn to the usual scale. Its façade is formed by two great pylons, or pyramidal masses of masonry, which, like the two western towers of a Gothic cathedral, are the appropriate and most imposing part of the structure externally. Between these is the entrance doorway, leading almost invariably into a great square courtyard, with porticoes always on two, and sometimes on three sides. This leads to an inner court, smaller, but far more splendid, than the first. On the two sides of this court, through which the central passage leads, are square piers with colossi in front, and on the right and left are double ranges of circular columns, which are continued also behind the square piers fronting the entrance. Passing through this, we come to a hypostyle hall of great beauty, formed by two ranges of larger columns in the centre, and three rows of smaller ones on each side. These hypostyle halls almost always accompany the larger Egyptian temples of the great age. They derive their name from having an upper range of columns, or what in Gothic architecture would be called a *clerestory*, through which the light is admitted to the central portion of the hall. Although some are more extensive than this, the arrangement of all is nearly similar. They possess 2 ranges of columns in the centre so tall as to equal the height of



167. Rhamession at Thebes. Scale 100 ft. to 1 in.

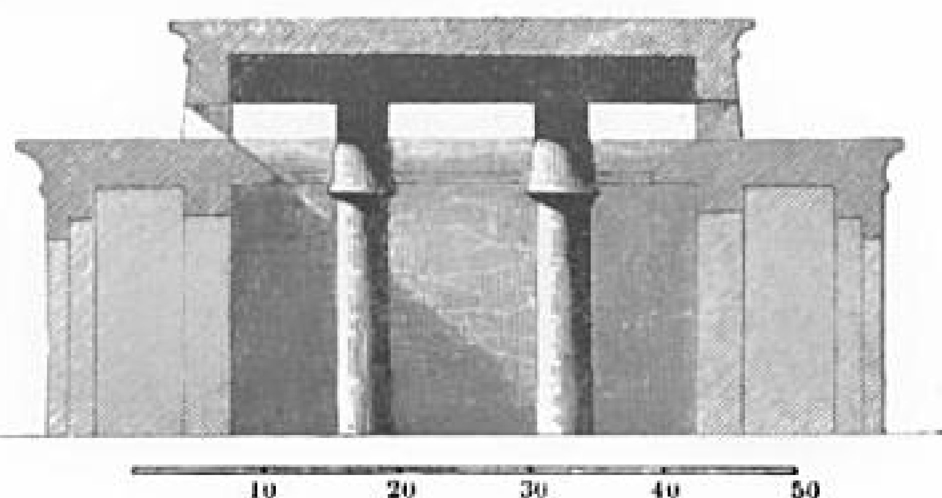
the side columns together with that of the attic which is placed on them. These are generally of different orders; the central pillars having a bell-shaped capital, the under side of which is perfectly illuminated from the mode in which the light was introduced: while in the side pillars the capital was narrower at the top than at the bottom, apparently for the sake of allowing its ornaments to be seen. One of the central pillars is given (woodcut No. 163). Beyond this are always several smaller apartments, in this instance supposed to be nine in number, but they are so ruined that it is difficult to be quite certain what their arrangement was. These seem to have been rather suited to the residences of the king or priests than to the purposes of a temple, as we understand the word. Indeed, palace-temple, or temple-palace, would be a more appropriate term for these buildings than to call them simply temples. They do not seem to have been appropriated to the worship of any particular god, but rather for the great ceremonials of royalty—of kingly sacrifice to the gods for the people, and of worship of the king by the people. He seems to have been regarded, if not as a god, at least as the representative of the gods on earth.

Though the Rhamession is so grand from its dimensions, and so beautiful from its design, it is far surpassed in every respect by the palace-temple at Karnac, which is perhaps the noblest effort of architectural magnificence ever produced by the hand of man.

Its principal dimensions are 1200 ft. in length, by about 360 in width, and it covers therefore about 430,000 square ft., or more than twice the area of St. Peter's at Rome, and more than four times that of any mediæval cathedral existing. This, however, is not a fair way of estimating its dimensions, for our churches are buildings entirely under one roof; but at Karnac a considerable portion was uncovered by any buildings, so that no such comparison is just. The great hypostyle hall, however, is internally 340 ft. by 170, and, with its two pylons, it covers more than 88,000 square ft., a greater area than the cathedral of Cologne, the largest of all our northern cathedrals; and when we consider that this is only a part of a great whole, we may fairly assert that the whole is among the largest, as it undoubtedly is one of the most beautiful buildings in the world.

The original part of this great group was, as before mentioned, the sanctuary or temple built by Osortasen, the great monarch of the 12th dynasty, before the Shepherd invasion. It is the only thing that seems to have been allowed to stand during the five centuries of Shepherd domination, though it is by no means clear that even it stood, and that it had not been pulled down by the Shepherds, and reinstated by the first kings of the 18th dynasty, an operation which was easily performed with the beautiful polished granite masonry of the sanctuary. Be this as it may, Amenophis, the first king of the restored race, enclosed this in a temple about 120 ft. square. Thothmes I. built in front of it a splendid hall, surrounded by colossi, backed by piers; and Thothmes III. erected behind it a palace or temple, which is one of the most singular buildings in Egypt. The hall is 140 ft. long by

55 in width internally, and the roof supported by two rows of massive square columns, and two of circular pillars of most exceptional form, the capital being reversed, and something of the form usually found in Assyria, but never again in Egypt. Like almost all Egyptian halls, it was lighted from the roof in the manner shown in the section. With all these additions, the temple was a complete whole, 540 ft. in length by 280 in width, at the time when the sun-worshippers broke in upon the regular succession of the great 18th dynasty.



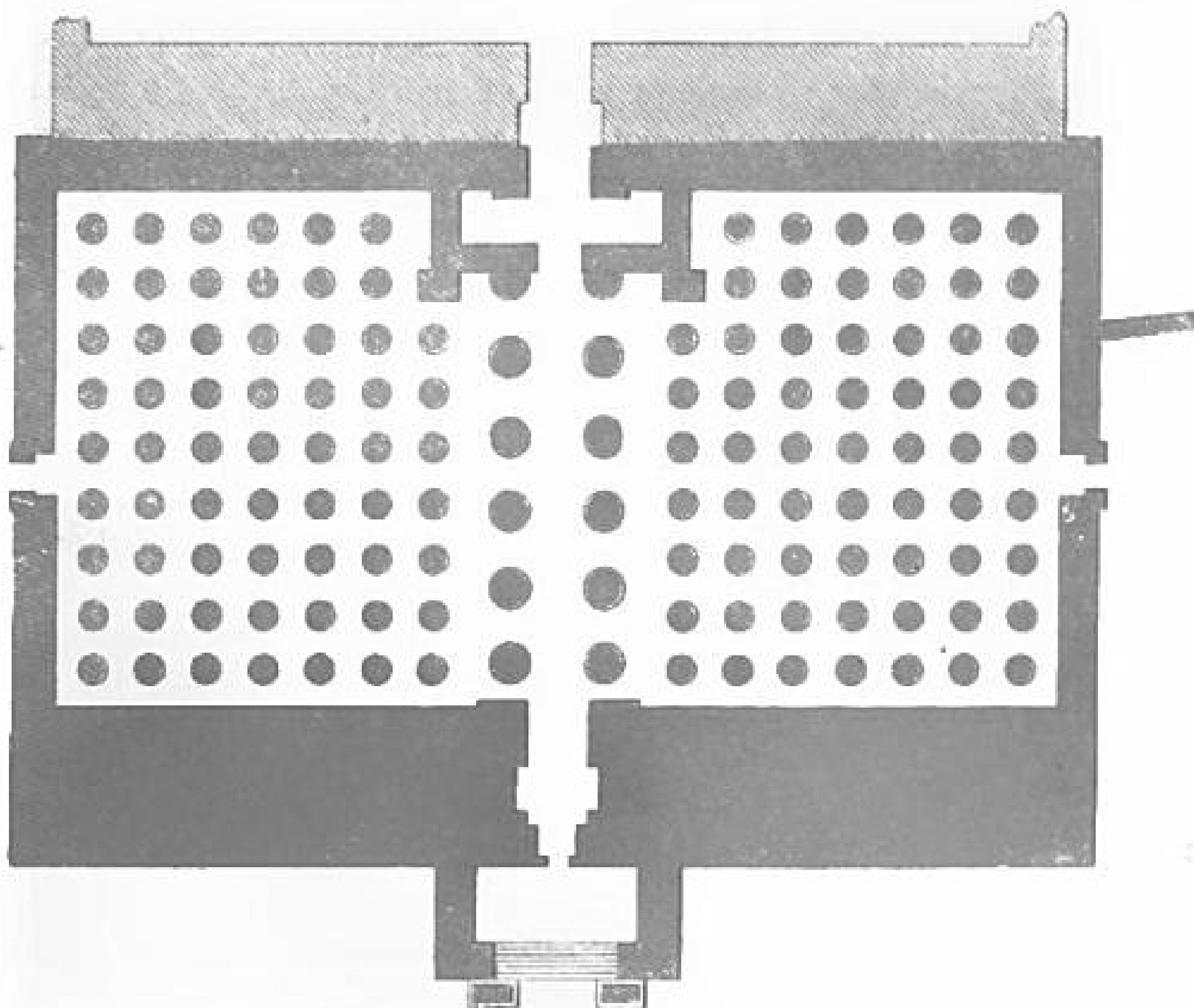
168. Section of Palace of Thothmes III., Thebes.

When the original line was resumed, Manepthah commenced the building of the great hall, which he nearly completed. Rhamses, the first king of the 19th dynasty, built the small temple in front; and the so-called Bubastite kings of the 22nd dynasty added the great court in front, completing the building to the extent we now find it. We have thus, as in some of our mediæval cathedrals, in this one temple, a complete history of the style during the whole of its most flourishing period; and, either for interest or for beauty, it forms such a series as no other country, and no other age, can produce. Besides those buildings mentioned above, there are other temples to the north, to the east, and more especially to the south, and pylons connecting these, and avenues of sphinxes extending for miles, and enclosing walls, and tanks, and embankments, making up such a group as no city ever possessed before or since. St. Peter's, with its colonnades, and the Vatican, make up an immense mass, but as insignificant in extent as in style when compared with this glory of ancient Thebes and its surrounding temples.

The culminating point and climax of all this group of building is the hypostyle hall of Manepthah. The accompanying plan, and section of its central portion, both to the usual scale, will explain its general arrangement; but no language can convey an idea of its beauty, and no artist has yet been able to reproduce its form so as to convey to those who have not seen it an idea of its grandeur. The mass of its central piers, illumined by a flood of light from the clerestory, and the smaller pillars of the wings gradually fading into obscurity, are so arranged and lighted as to convey an idea of infinite space; at the same time, the beauty and massiveness of the forms, and the brilliancy of their coloured decorations, all combine to stamp this as the greatest of man's architectural works; but such a one as it would be impossible

to reproduce, except in such a climate and in that individual style in which, and for which, it was created.

On the same side of the Nile, and connected with it by an avenue of sphinxes, stands the temple of Luxor, hardly inferior in some respects



169. Plan of Hypostyle Hall at Karnac. Scale 100 ft. to 1 in.

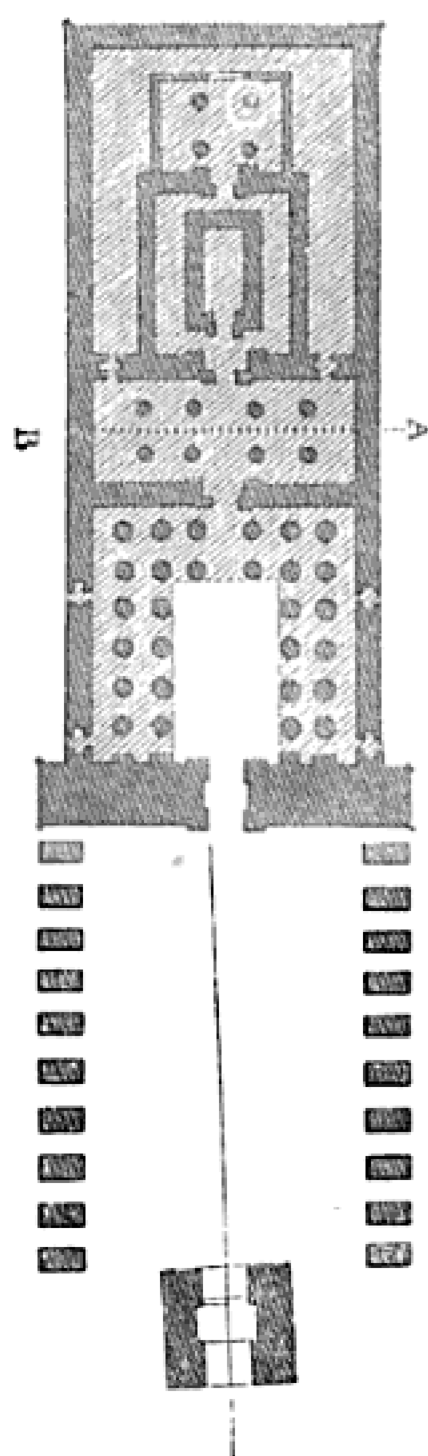


170. Section of central portion of Hypostyle Hall at Karnac. Scale 50 ft. to 1 in.

to its great rival at Karnac; but either it was never finished, or, owing to its proximity to the Nile, it has been ruined, and the materials carried away. The length is about 800 ft., its breadth ranging from 100 to 200 ft. Its general arrangement comprised, first, a great court

at a different angle from the rest, being turned so as to face Karnac. In front of this stand two colossi of Rhamses the Great, its founder, and two obelisks were once also there, one of which is now in Paris. Behind this was once a great hypostyle hall, but only the two central ranges of columns are now standing. Still further back were smaller halls and numerous apartments, evidently meant for the king's residence, rather than for a temple or place exclusively devoted to worship.

The palace at Luxor is further remarkable as a striking instance of how regardless the Egyptians were of regularity and symmetry in their plans. Not only is there a considerable angle in the direction of the axis of the building, but the angles of the courtyards are hardly ever right angles; the pillars are variously spaced, and pains seem to have been gratuitously taken to make it as irregular as possible in nearly every respect. All that part on the southern end was erected by Amenophis III., the northern part completed by Rhamses the Great, the same who built the Rhamession already described as situated on the other bank of the Nile.



171. South Temple of Karnac. Scale 100 ft. to 1 in.

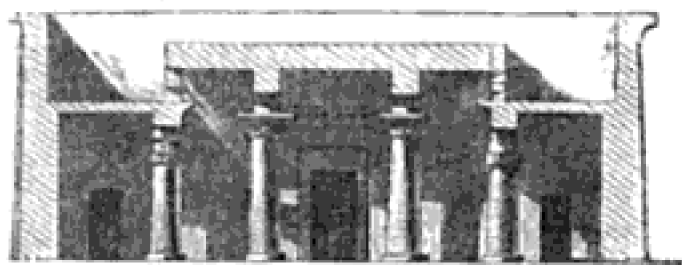
Besides these there stood on the western side of the Nile the Memnonium, or great temple of Amenophis III., now almost entirely ruined, having been placed on the alluvial plain, within the limits of the inundation, which has tended on the one hand to bury it, and on the other to facilitate the removal of its materials. Nearly the only remains of it now apparent are the two great seated colossi of its founder, one of which, when broken, became in Greek, or rather Roman times, the vocal Memnon, whose plaintive wail to the rising sun, over its own and its country's desolation, forms so prominent an incident in the Roman accounts of Thebes.

Not far from this stood the great temple of Medinet-Habou, built by Rhamses III., the first king of the 19th dynasty. This, though scarcely inferior in size to its neighbour, shows a manifest inferiority of art,—as if Egypt's great days were already fast passing away. Further down the river stood another temple, that of Gournou, built by the same Manepthah who erected the great hall of Karnac. This, however, appears only to have been a residence, and both in style and size the least remarkable of the great buildings whose wondrous remains still adorn the site of the hundred-gated city.

Another building of this age, attached to the southern side of the great temple at Karnac, deserves especial attention as being a perfectly regular building, erected at one time, and according to the original design, and being literally a

temple, without anything about it that could justify the supposition of its being a palace.

It was erected by the first king of the 19th dynasty, and consists of two pylons, approached through an avenue of sphinxes. Within this is an hypæthral court, and beyond that a small hypostyle hall, lighted from above, as shown in the section. Within this is the cell, surrounded by a passage, and with a smaller hall beyond, all apparently dark, or very imperfectly lighted. The gateway in front of the avenue was erected by the Ptolemies, and, like many Egyptian buildings, placed at a different angle to the direction of the building itself. Besides its intrinsic beauty, this temple is interesting as being far more like the temples erected afterwards under the Greek and Roman domination than anything else belonging to that early age.


172. Section on A B of above. Scale 50 ft. to 1 in.

There are, or were, many other great works of this great age scattered over the whole length and breadth of the country, from Tanis, or Soan, near the mouth of the Nile, where the remains of 13 obelisks can still be traced, to Soleb, on the borders of Nubia, where now stands a temple of the third Amenophis, scarcely inferior in beauty or magnificence to those of the capital. Those at Memphis, at Abydos, many of those at Thebes, and elsewhere, are so completely ruined, that it is impossible to restore them, or to judge of their effect architecturally. Nor do they seem to possess any peculiarities which are not found in those already mentioned.

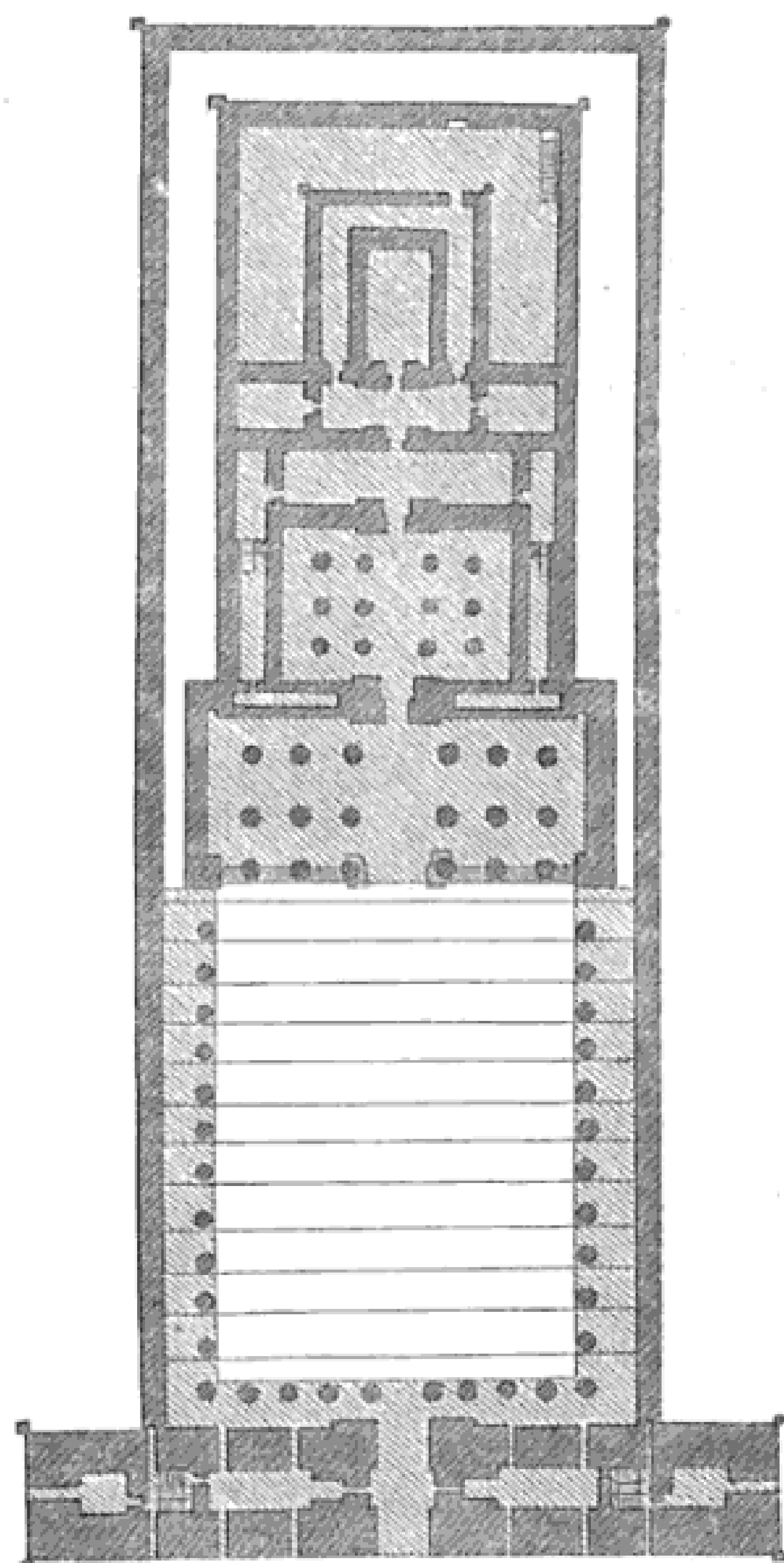
CHAPTER III.

MODERN STYLES.

CONTENTS.

Decline of art — Temples at Dendera — Kalabsche — Philæ — Mammeisi — Rock-cut examples — Ipsamboul — Tombs — Labyrinths — Obelisks — Domestic architecture.

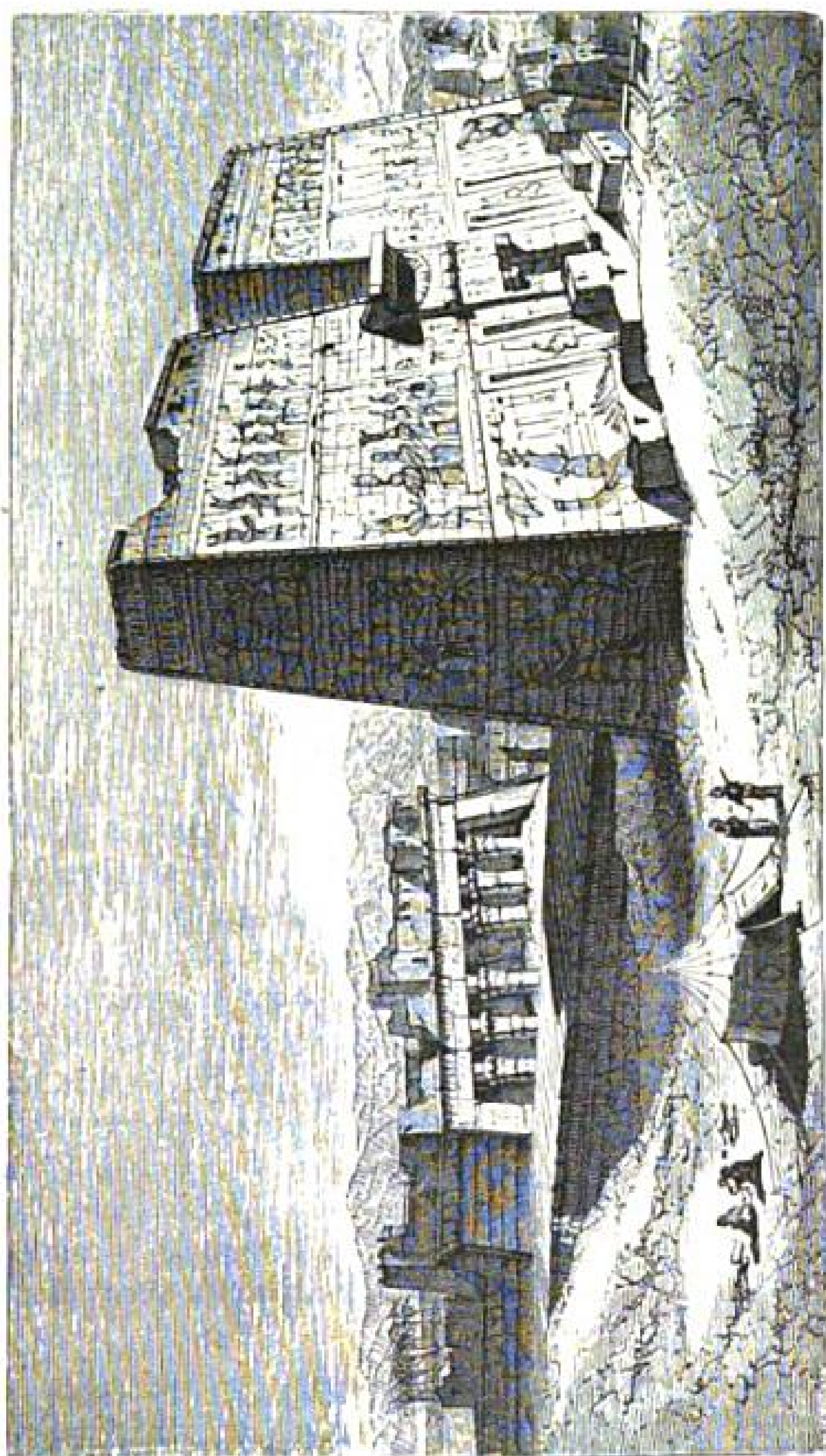
From the time of the 19th dynasty, with a slight revival under the Bubastite kings of the 22nd dynasty, Egypt sank through a long period of decay, till her misfortunes were consummated by the invasion of the Persians under Cambyses, 525 B.C. From that time she served in a bondage more destructive, if not so galling, as that of the Shepherd domination, till relieved by the more enlightened policy of the Ptolemies. Under them she enjoyed as great material prosperity as under the Pharaohs; and her architecture and her arts too revived, not, it is true, with the greatness or the purity of the great national era, but still with much richness and material splendour.



173. Plan of Temple at Edfou, Apollonopolis Magna. Scale 100 ft. to 1 in.

Some of the temples of this age are, as far as dimensions and richness of decorations are concerned, quite worthy of the great age, though their plans and arrangements differ to a considerable extent. There is now no hesitation as to whether they should be called temples or palaces: all is now exclusively devoted to worship,—and to the worship of a heavenly God, not of a deified king.

What these arrangements are will be well understood from the annexed plan of that of Edfou (woodcut No. 173), which, though not the largest, is the most complete of those remaining. It is 450 ft. in length, and 155 in width, and covering upwards of 80,000 ft.; its dimensions may be said to be equal to those of the largest of our mediæval cathedrals (Cologne or Amiens for instance). Part only of

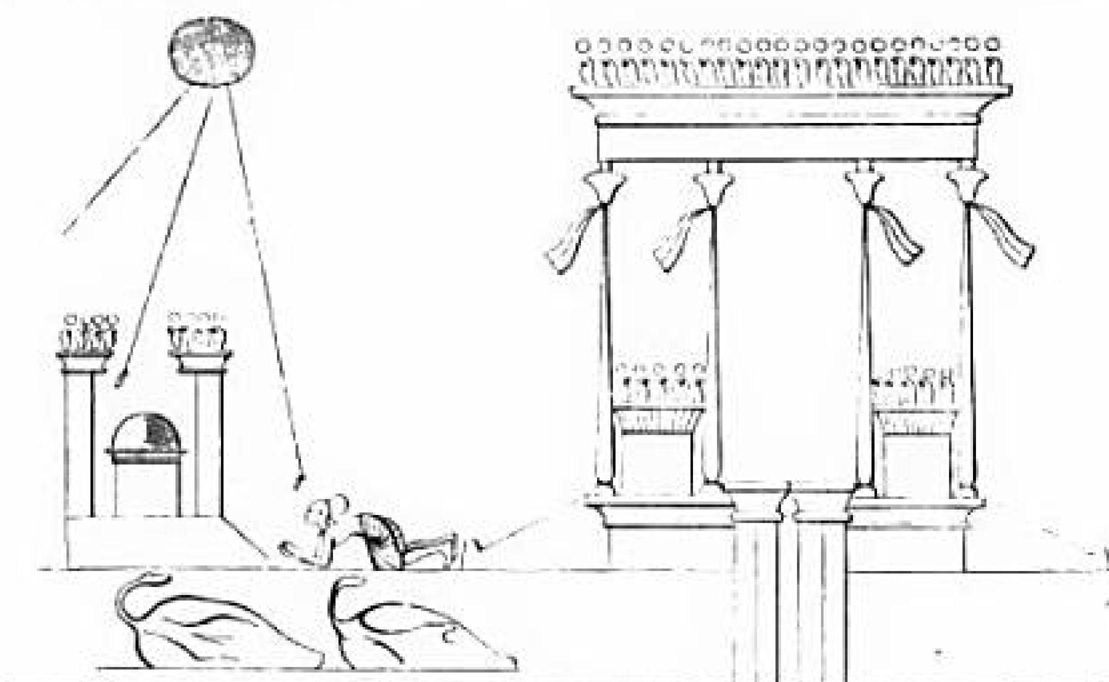


174. View of Temple at Edfou.

the whole structure (that which is shaded in the plan) is roofed, and therefore it can scarcely be compared with buildings entirely under one roof.

In front of the temple are two large and splendid pylons, with the gateway in the centre, making up a façade 225 ft. in extent. Although this example has lost its crowning cornice, its sculptures and ornaments are still very perfect, and it may altogether be con-

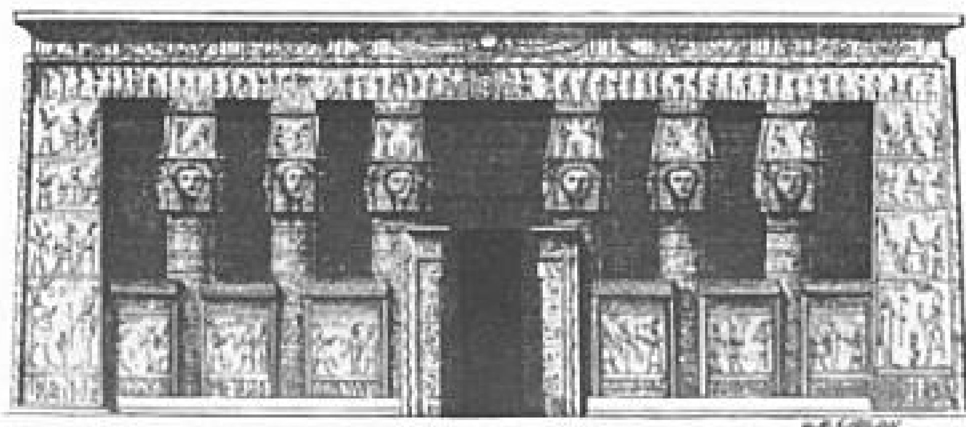
sidered as a fair specimen of its class, though inferior in dimensions to many of those of the great Pharaonic age. Within these is a court, 140 ft. by 161, surrounded by a colonnade on three sides, and rising by easy steps, the whole width of the court, to the porch or portico which, in Ptolemaic temples, takes the place of the great hypostyle halls of the Pharaohs. It is lighted from the front over low screens placed between each of the pillars, a peculiarity scarcely ever found in temples of earlier date, though apparently common in domestic edifices, or those formed of wood, certainly as early as the middle of the 18th dynasty, as may be seen from the annexed woodcut (No. 175),



175. Bas-relief at Tell el Amarna.

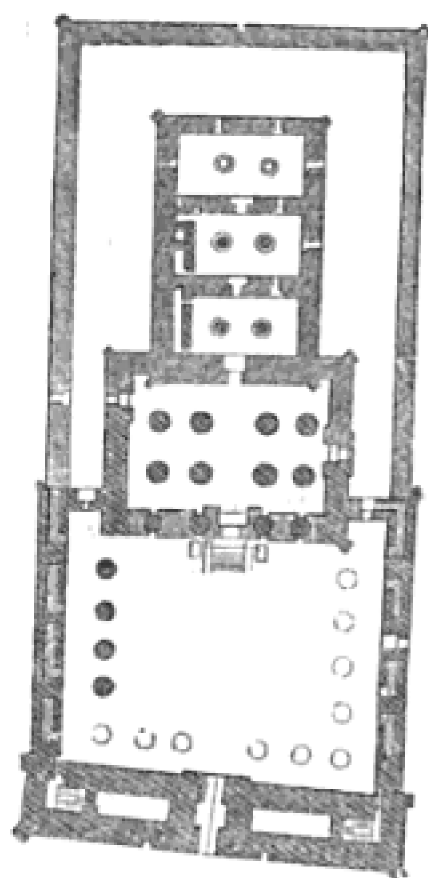
taken from a tomb of one of the sun-worshipping kings, who reigned between Amenophis III. and Horus. From this we pass into an inner and smaller porch, and again through two passages to a dark and mysterious sanctuary, surrounded by darker passages and chambers, well calculated to mystify and strike with awe any worshipper or neophyte who might be admitted to their gloomy precincts.

The celebrated temple at Dendera is similar to this, and slightly larger, but it has no forecourt, no propylons, and no enclosing outer walls. Its façade is given in the next woodcut (No. 176). Its Isis-headed columns are not equal to those of Edfou in taste or grace; but it has the advantage of situation, and this temple is not encumbered either by sand or huts, as the other is, so that its effect on travellers is always more striking.

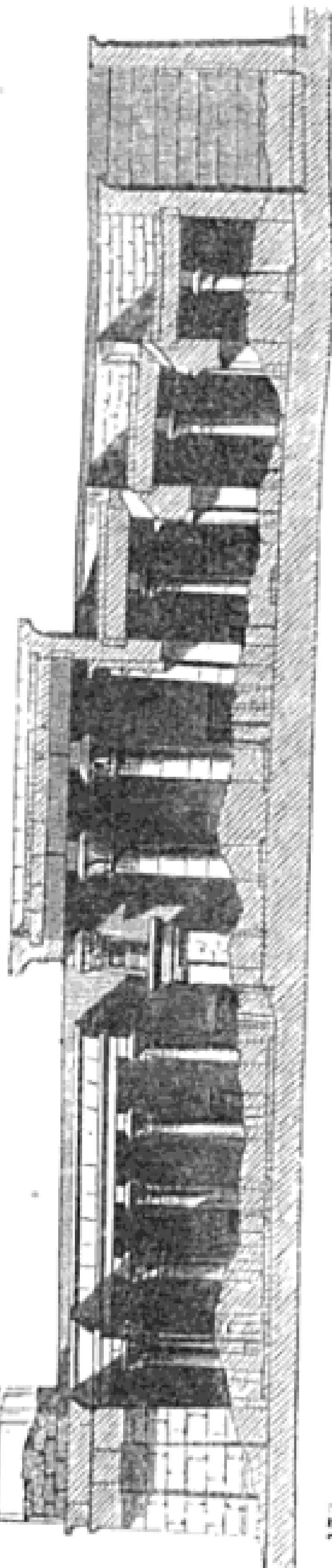


176. Façade of Temple at Dendera.

The Roman temple at Kalabsche (woodcut No. 177), above the Cataract, is a fair specimen of these temples on a smaller scale. The section (woodcut No. 178) shows one of the modes by which a scanty light was introduced into the inner cells, and their gradation in height. The position, too, of its propylons is a striking instance of the irregularity which distinguishes all the later Egyptian styles from that of the rigid, proportion-loving, pyramid-builders of Memphis.

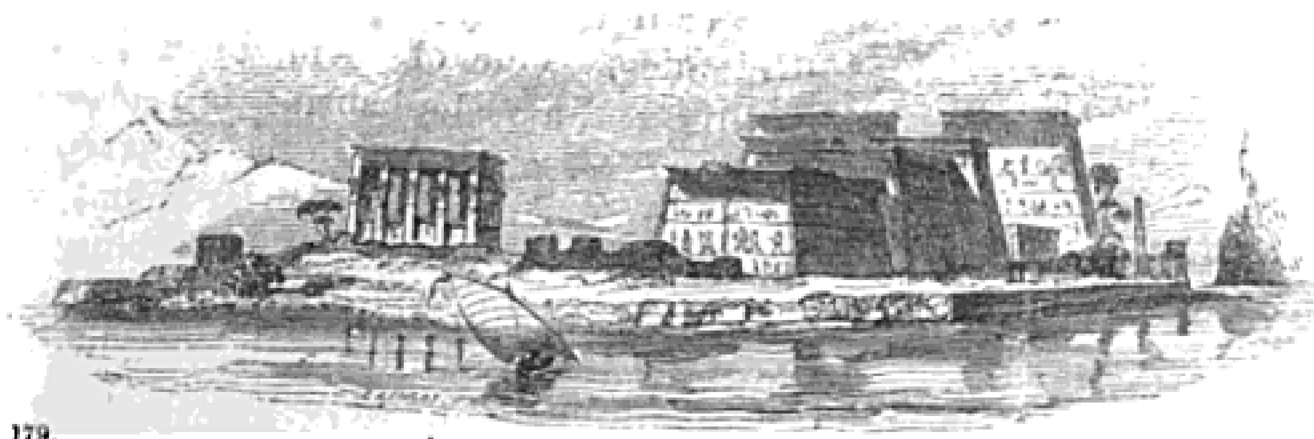


177. Plan of Temple at Kalabsche.



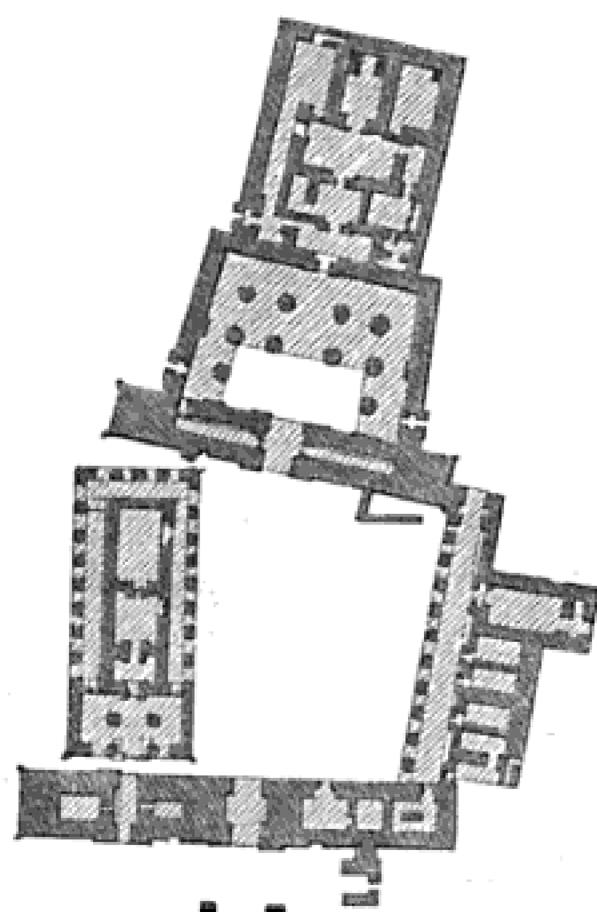
178. Section of Temple at Kalabsche.

This irregularity of plan was nowhere carried to such an extent as in the Ptolemaic temple on the island of Philæ. Here no two buildings, scarcely any two walls, are on the same axis or parallel to one another. No Gothic architect in his wildest moments ever played so freely with his lines or dimensions, and none, it must be added, ever produced anything so beautifully picturesque as this. It contains all the play of light and shade, all the variety of Gothic art, with the massiveness and grandeur of the Egyptian style; and as it is still tolerably entire, and retains much of its colour, there is no building out of Thebes that gives so favourable an impression of Egyptian art as this. It is true it is far less sublime than many, but hardly one can be quoted as more beautiful than it is.



179. View of Temple at Philæ.

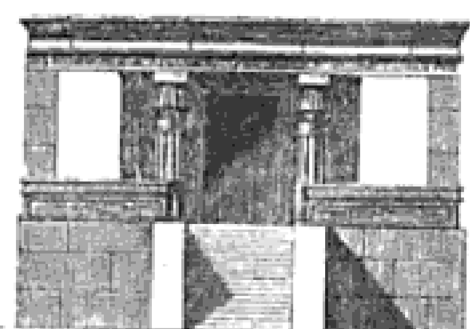
Notwithstanding its irregularity, this temple has the advantage of being nearly all of the same age, and erected according to one plan, while the greater buildings at Thebes are often aggregations of parts of different ages; and though each is beautiful in itself, the result is often not quite so harmonious as might be desired. In this respect the Ptolemaic temples certainly have the advantage, inasmuch as they are all of one age, and all completed according to the plan on which they were designed, a circumstance which, to some extent at least, compensates for their marked inferiority in size and style, and the littleness of all the ornaments and details as compared with those of the Pharaonic period. It must at the same time be admitted that this inferiority is more apparent in the sculpture of the Ptolemaic age than in its architecture. The general design of the buildings is frequently grand and imposing, but the details are always inferior; and the sculpture and painting, which in the great age add so much to the beauty of the whole, are in the Ptolemaic age always frittered away, ill-arranged, and unmeaning—injurious to the general effect instead of heightening and improving it.



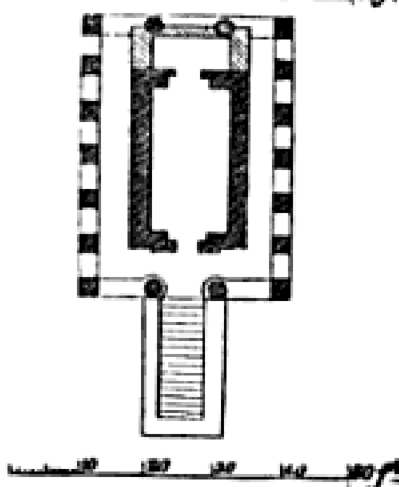
180. Plan of Temple at Philæ.

Mammeisi.

Besides the temples above described, which are all more or less complex in plan, and all made up of various independent parts, there exists in Egypt a class of temples called *mammeisi*, dedicated to the mysterious accouchement of the mother of the gods. Small temples of this form are common to all ages, and belong as well to the 18th dynasty as to the time of the Ptolemies. One of them, built by Amenophis III. at Elephantine, is represented in plan and elevation in the annexed cut. It is of a simple peristylar form, with columns in front and rear, resembling that shown in woodcut No. 157, and 7 square piers on each flank. These temples are all small, and, like the Typhonia, which somewhat resemble them, were used as detached chapels or cells, dependent on the larger temples. What renders







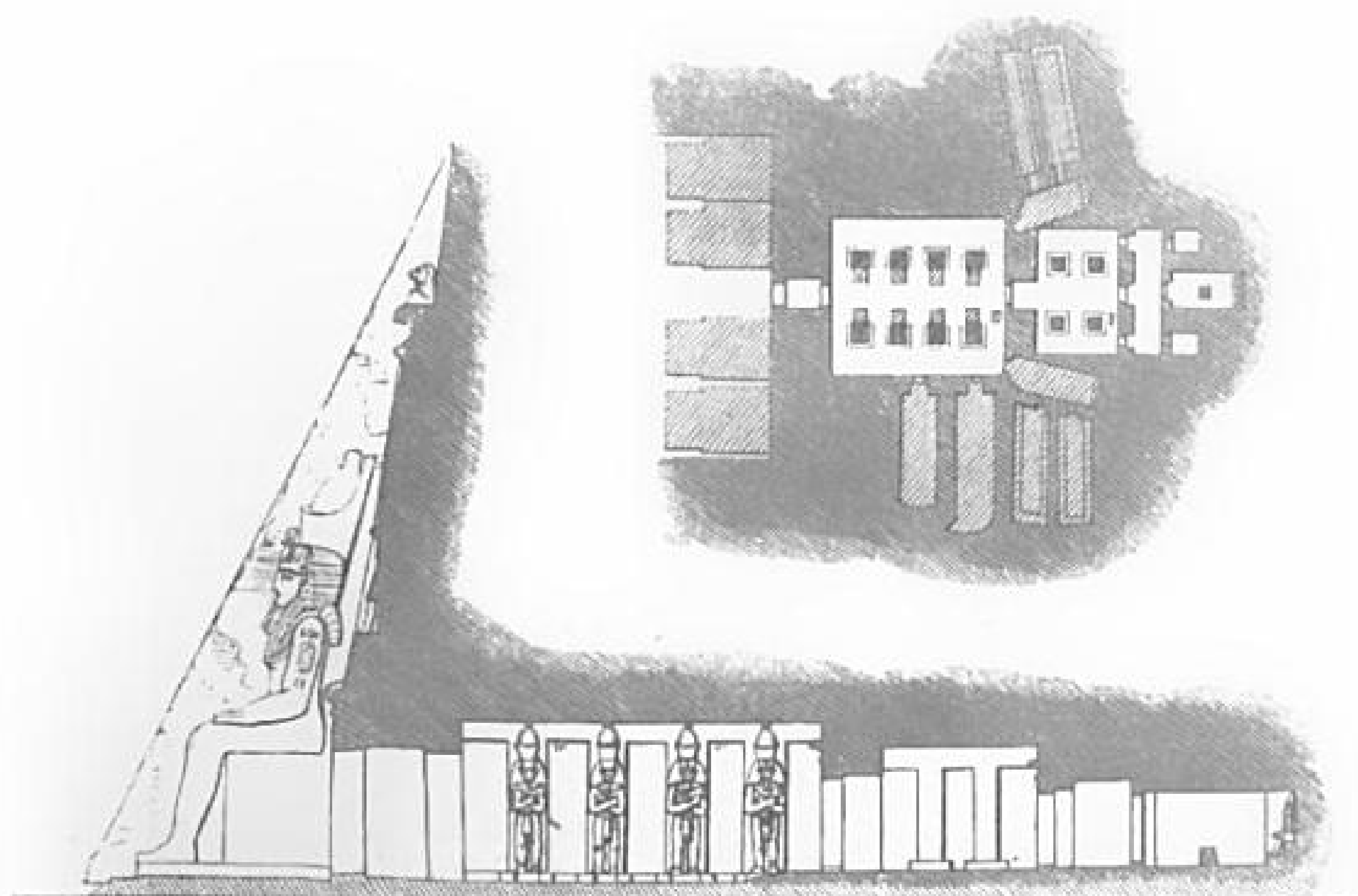
181. Mammeisi at Elephantine.

them more than usually interesting to us is the fact that they were undoubtedly the originals of the Greek peristylar forms, that people having borrowed nearly every peculiarity of their arts from the banks of the Nile. We possess the tangible evidence of peristylar temples and proto-Doric pillars, erected in Egypt centuries before the oldest known specimen in Greece. We need therefore hardly hesitate to award the palm of invention of these things to the Egyptians, as we should probably be forced to do of most of the arts and sciences of the Greeks if we had only knowledge sufficient to connect them.

Rock-cut Tombs and Temples.

Both in Egypt Proper and in Nubia the Egyptians were in the habit of excavating monuments from the living rock, but with this curious distinction, that, with scarcely an exception, all the excavations in Egypt Proper are tombs, and no important example of a rock-cut temple has yet been found. In Nubia, on the other hand, all the excavations are temples, and no tombs of importance are to be found anywhere. This distinction may hereafter lead to important historical deductions, inasmuch as on the western side of India there are, as has already been pointed out, an infinite number of rock-cut temples, but no tombs of any sort. Every circumstance seems to point to the fact that, if there was any connection between Africa and India, it was with the provinces of the upper part of the Valley of the Nile, and not with Egypt Proper. This, however, is a subject that can hardly be entered on here, though it may be useful to bear in mind the analogy alluded to.

Like all rock-cut examples all over the world, these Nubian temples are copies of structural buildings, only more or less modified to suit



182. Plan and Section of Rock-cut Temple at Ipsamboul. Scale for plan 100 ft. to 1 in.; section 50 ft. to 1 in.

the exigencies of their situation, which did not admit of any very great development inside, as light and air could only be introduced from the one opening of the doorway.

The two principal examples of this class of monument are the two at Ipsamboul, the largest of which is the finest of its class known to exist anywhere. Its total depth from the face of the rock is 150 ft., divided into 2 large halls and 3 cells, with passages connecting them.

Externally the façade is about 100 ft. in height, and adorned by 4 of the most magnificent colossi in Egypt, each 70 ft. in height, and representing the King Rhamses II., who caused the excavation to be made. It may be because they are more perfect than any others now found in that country, but certainly nothing can exceed their calm majesty and beauty, or be more entirely free from the vulgarity and exaggeration which is generally a characteristic of colossal works of this sort.

The smaller temple at the same place has 6 standing figures of deities countersunk in the rock, and is carved with exceeding richness. It is of the same age with the large temple, but not to be compared with it owing to the inferiority of the design.

Besides these, there is a very beautiful though small example at Kalabsche, likewise belonging to the age of Rhamses II., and remarkable for the beauty of its sculptural bas-reliefs, as well as for the bold proto-Doric columns which adorn its vestibule. There are also smaller ones at Derri and Balagne, at the upper end of the valley. At Essabua, Girsheh, and Dandour, the cells of the temple have been excavated from the rock, but their courts and propylons are structural buildings added in front—a combination never found in Egypt, and very rare anywhere else, although meeting the difficulties of the case better than any other arrangement, inasmuch as the sanctuary has thus all the imperishability and mystery of a cave, and the temple at the same time has the space and external appearance of a building standing in the open air.

This last arrangement is found also as a characteristic of the temples of Gibel Barkal, in the kingdom of Meroë, showing how far the rock-cutting practice prevailed in the upper Valley of the Nile.

As all these temples are contemporary with the great structures in Egypt, it seems strange that the eternity of a rock-cut example did not recommend this form of temple to the attention of the Egyptians themselves. But with the exception of a small grotto, called the Speos Artemidos, near Beni Hassan, and two small caves at Silsilis, near the cataract, the Egyptians seem never to have attempted it, trusting apparently to the solidity of their masonic structures for that eternity of duration they aspired to.

Tombs.

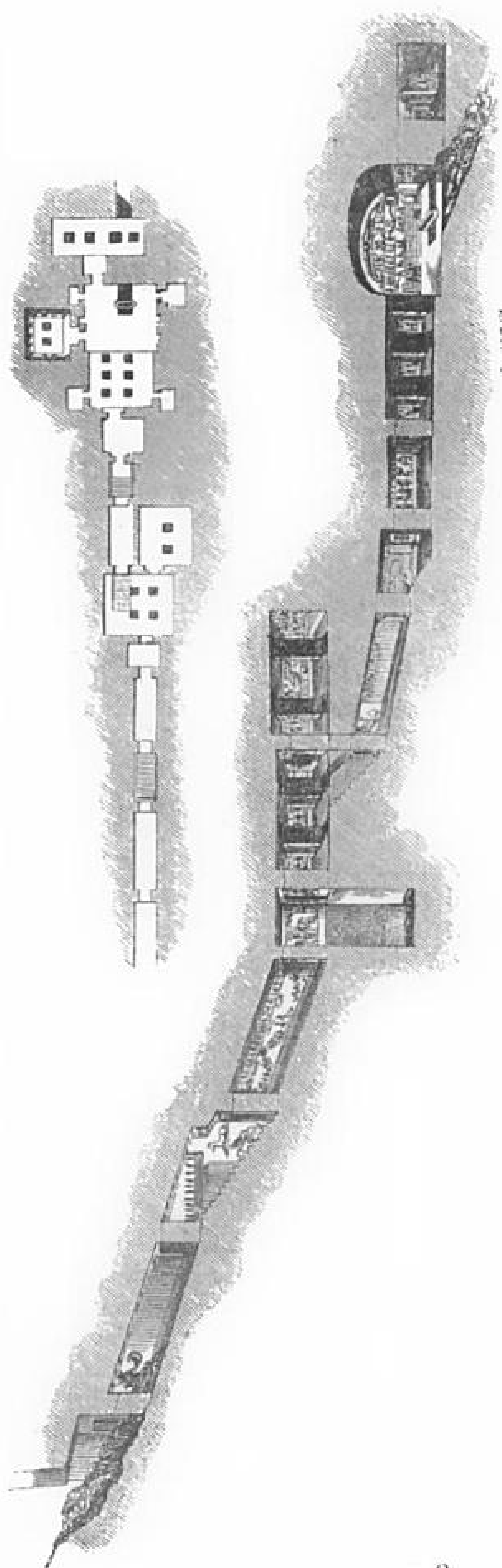
Of the first 10 dynasties of Egyptian kings nothing now remains but their tombs—the everlasting pyramids—and little or nothing of the people they governed but the structures and rock-cut excavations which they prepared for their final resting-places.

The Theban kings and their subjects built no pyramids, and none of their tombs are built—all are excavated from the living rock; and from Beni Hassan to the cataract, the plain of the Nile is everywhere

fringed with these singular monuments, which, if taken in the aggregate, perhaps required a greater amount of labour to excavate and to adorn than did even all the edifices of the plain. Certain it is that there is far more to be learnt of the arts, of the habits, and of the history of Egypt from these tombs than from all the other monuments. No tomb of any king of the Theban dynasties has yet been discovered anterior to the 18th dynasty; but all the tombs of that and of the subsequent dynasty have been found, or are known to exist, in the Valley of Biban-el-Melouk, on the western side of the plain of Thebes.

It seems to have been the custom with these kings, as soon as they ascended the throne, to begin preparing their final resting-place. The excavation seems to have gone on uninterruptedly year by year, the painting and adornment being finished as it progressed, till the hand of death ended the king's reign, and simultaneously the works of his tomb. All was left unfinished; the cartoon of the painter and the rough work of the mason and plasterer were suddenly broken off, as if the hour of the king's demise called them too irrevocably from their labours.

The tomb thus became an index of the



183. Plan and Section of Tomb of Manepthah at Thebes. Scale for plan 100 ft. to 1 in.; section 50 ft. to 1 in.

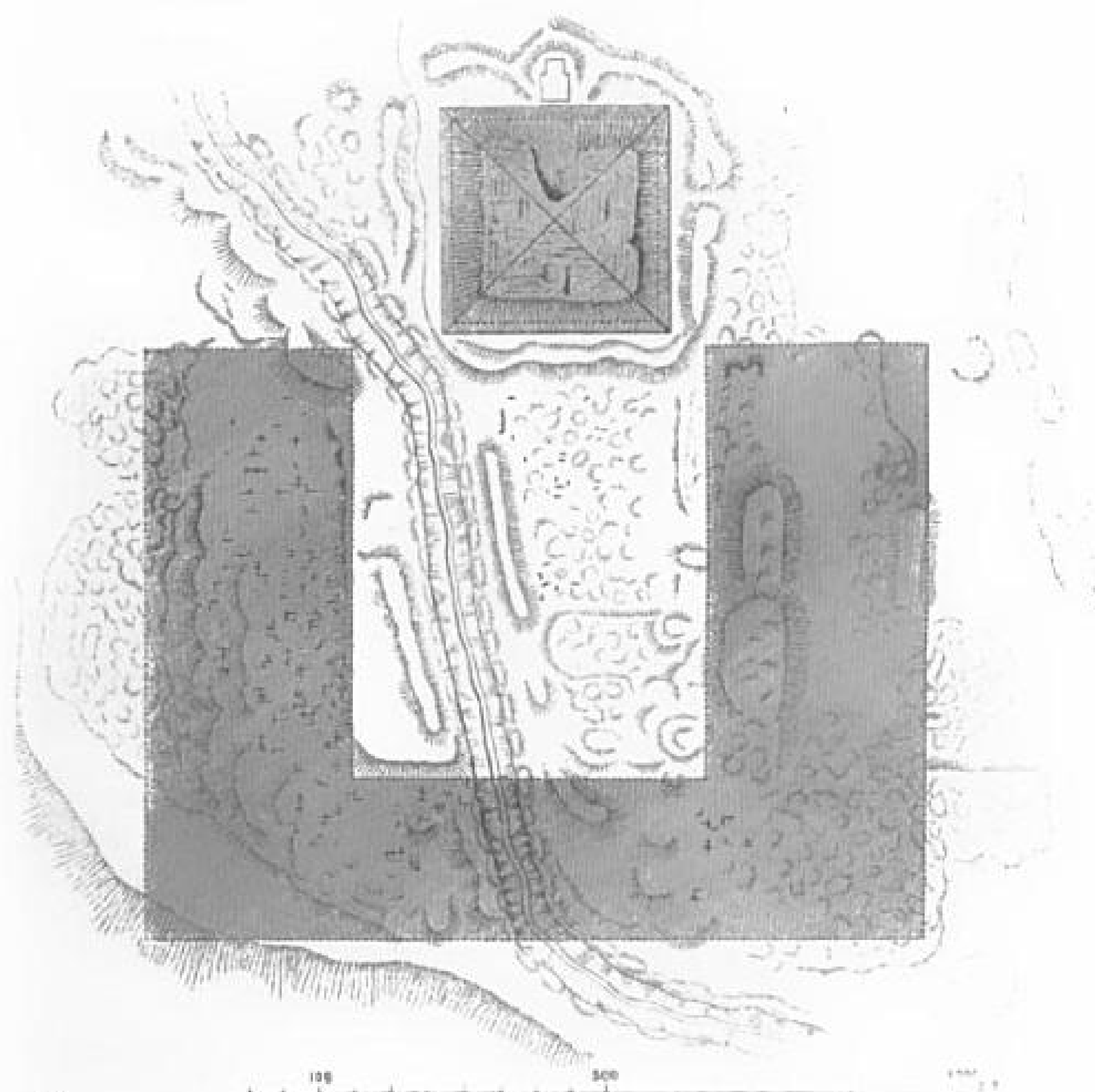
length of a king's reign, as well as of his magnificence. Of those in the Valley of the Kings, the most splendid is that opened by Belzoni, and now known as that of Manepthah, the builder of the Hypostyle hall at Karnac. It descends, in a sloping direction, for about 350 ft. into the mountain, the upper half of it being tolerably regular in plan and direction; but after progressing as far as the unfinished hall with 2 pillars, the direction changes, and the works begin again on a lower level, probably because they came in contact with some other tomb, or in consequence of meeting some flaw in the rock. It now terminates in a large and splendid chamber with a coved roof, in which stood, when opened by Belzoni, the rifled sarcophagus; but a drift-way has been carried beyond this, as if it had been intended to carry it still further had the king continued to reign.

The tomb of Rhamses Maiamoun, the first king of the 19th dynasty, is more regular, and in some respects as magnificent as this, and that of Amenophis III. is also an excavation of great beauty, and adorned with paintings of the very best age. Like all the tombs, however, they depend for their magnificence more on the paintings that adorn the walls than on anything which can strictly be called architecture, so that they hardly come properly within the scope of the present work; and the same is true of private tombs. Except those of Beni Hassan, already illustrated by woodcut No. 161, they are all either mere chambers or corridors, without architectural ornament, but with their walls covered with paintings and hieroglyphics of singular interest and beauty. Generally speaking, it is assumed that the entrances of these tombs were meant to be concealed and hidden from the knowledge of the people after the king's death. It is hardly conceivable, however, that so much pains should have been taken, and so much money lavished, on what was designed never again to testify to the magnificence of its founder. It is also very unlike the sagacity of the Egyptians to attempt what was so nearly impossible; for though the entrance of a pyramid might be so built up as to be unrecognisable, a cutting in the rock can never be repaired or disguised, and only temporarily concealed by heaping rubbish over it. Supposing it to have been intended to conceal the entrances, such an expedient was as clumsy and unlikely to have been resorted to by so ingenious a people as it has proved futile, for all the royal tombs in the Valley of Biban-el-Melouk have been opened and rifled in ancient times, and their sites and numbers were matters of public notoriety in the times of the Greeks and Romans. Many of the private tombs have architectural façades, and certainly never were meant to be concealed, so that it is not fair to assume that hiding their tombs' entrances was ever a peculiarity of the Thebans, though it certainly was of the earlier Memphites.

Labyrinths.

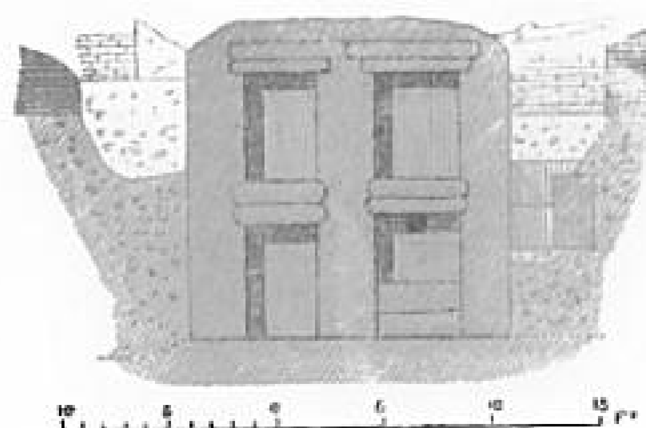
Among the miscellaneous monuments of Egypt, the one that excited the greatest wonder in the minds of the Greeks, not even excepting the pyramids, was the great Labyrinth, erected, it was said, by Mœris, close to the lake bearing his name. Till recently its site was a matter of dispute. It is rightly placed in Sir G. Wilkinson's map of the

Fayoom, published in 1828; but the question was not entirely set at rest till it was absolutely determined by Mr. Perring when employed by Colonel Vyse, and the whole was afterwards excavated by the officers of the Prussian expedition under Lepsius. Like everything, however, of interest discovered by that *savant*, the information obtained is kept back, and we have only imperfect sketches of its general form. From



184.

these it appears that it was a building about 1150 ft. east and west, by 850 north and south, surrounding 3 sides of a courtyard 500 ft. in one direction by 600 ft. in the other; the fourth side was occupied by a small pyramid of rather more than 300 ft. square (Strabo says 400).



185.

A number of small chambers, two stories in height, have been found, but nothing indicating that magnificence which so excited the astonishment of the Greeks. The facility of water-carriage may have enabled those who subsequently occupied the country to remove all the more precious materials, as they have done from Memphis. Enough remains to confirm to a surprising extent the accounts of Herodotus and Strabo, at least so far as we can judge

from the meagre accounts of the excavation that have been made public; but till the whole are available, it is needless either attempting to reason on them, or to attempt any restoration of the whole.

The name of Amememha, of the 12th dynasty, has been found among the ruins, proving what was before conjectured, that he was in reality the founder of the monument in question; and if the pyramid be really his sepulchre, as Strabo asserts, it would prove that the fashion of burying in pyramids was not extinct, in Lower Egypt at least, even after the accession of the 12th dynasty. This, however, and many other points of interest, must remain unsettled till the results of recent explorations are made public.

Obelisks.

Another class of monuments, almost exclusively Egyptian, are the obelisks which form such striking objects in front of almost all the old temples of the country.

Small models of obelisks are found in the tombs of the age of the pyramid-builders, and represented in their hieroglyphics; but the oldest public monument of the class known to exist is that at Heliopolis, erected by Osortasen, the great king of the 12th dynasty. It is, like all the others, a single block of beautiful red granite of Syene, cut with all the precision of the age, tapering slightly towards the summit, and of about the average proportion, being about 10 diameters in height; exclusive of the top it is 67 ft. 4 in.

The two finest known to exist are, that now in the piazza of the Lateran, erected by Thothmes III., 105 ft. in height, and that still existing at Karnac, erected by Thothmes I., 93 ft. 6 in. in height. Those of Luxor, erected by Rhamses the Great, one of which is now in Paris, are above 77 ft. in height; and there are 2 others in Rome, each above 80 ft.

Rome, indeed, has 12 of these monuments within her walls—a greater number than exist, erect at least, in the country whence they came, though, judging from the number that are found adorning single temples, it is difficult to calculate how many must once have existed in Egypt. Their use seems to have been wholly that of monumental pillars, recording the style and titles of the king who erected them, his piety, and the proof he gave of it in dedicating these monoliths to the deity whom he especially wished to honour.

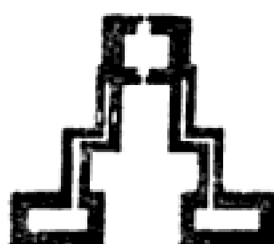
It has been remarked that, with scarcely an exception, all the pyramids are on the west side of the Nile, all the obelisks on the east: with regard to the former class of monument, this probably arose from a law of their existence, the western side of the Nile being in all ages preferred for sepulture, but with regard to the latter it seems to be accidental. Memphis doubtless possessed many monuments of this class, and there is reason to believe that the western temples of Thebes were also similarly adorned. They are, however, monuments easily broken; and, from their form, so singularly useful for many building purposes, that it is not to be wondered at if many of them have disappeared during the many centuries that have elapsed since the greater number of them were erected.

Domestic Architecture.

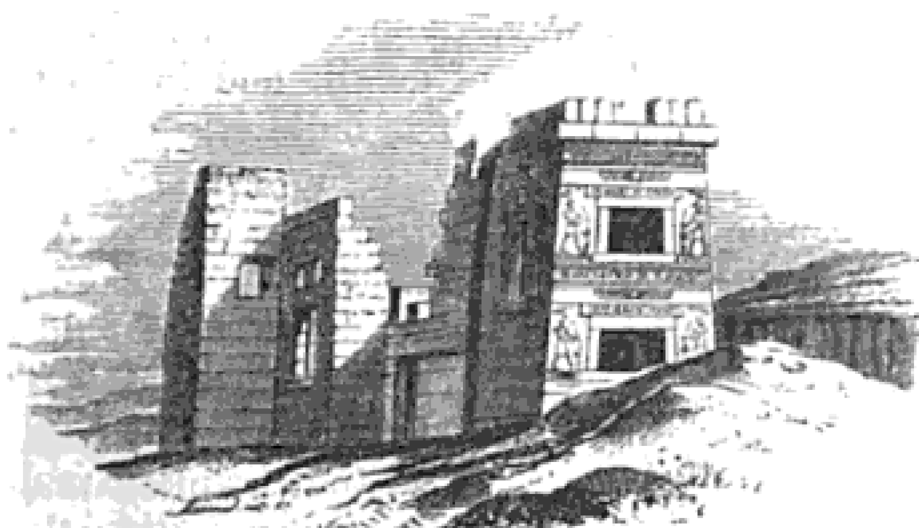
Except one small royal pavilion at Medinet Habou, no structure now remains in Egypt that can fairly be claimed as a specimen of the domestic architecture of the ancient Egyptians; but at the same time we possess, in paintings and sculptures, so many illustrations of their domestic habits, so many plans, elevations, and views, and even models of their dwellings of every class, that we have no difficulty in forming a correct judgment not only of the style, but of the details, of their domestic architecture.

Although their houses exhibited nothing of the solidity and monumental character which distinguished their temples and palaces, they seem in their own kind to have been scarcely less beautiful. They were of course on a smaller scale, and built of more perishable materials, but they appear to have been as carefully finished, and decorated with the same taste displayed in the greater works. We know also, from the tombs that remain to us, that, although the government of Egypt was a despotism of the strictest class, still the wealth of the land was pretty equally diffused among all classes, and that luxury and splendour were by no means confined either to the royal family or within the precincts of the palace. There is thus every reason to believe that the cities which have passed away were worthy of the temples that adorned them, and that the streets were as splendid and as tasteful as the public buildings themselves, and displayed, though in a more ephemeral form, the same wealth and power which still astonish us in the great monuments that remain.

No building can form a greater contrast with the temple behind it than does the little pavilion erected at Medinet Habou by Rhamses, the



186. Pavilion at Medinet Habou.

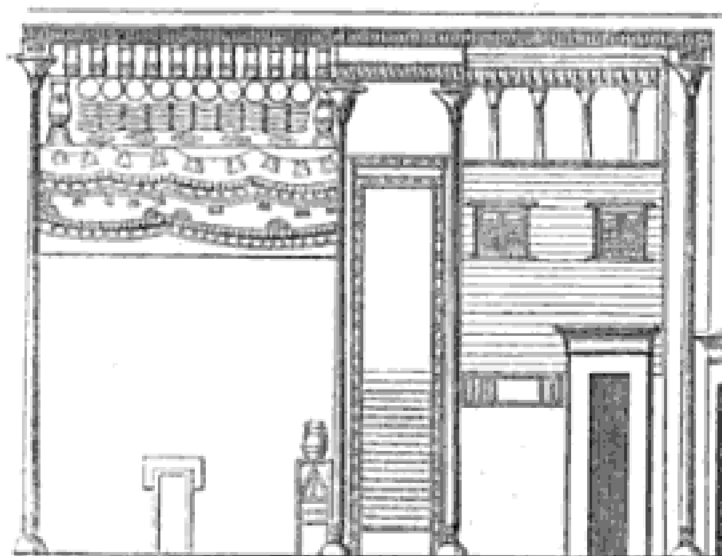


187. View of Pavilion at Medinet Habou.

first king of the 19th dynasty. As will be seen by the annexed plan (woodcut No. 186), it is singularly broken and varied in its outline, surrounding a small court in the shape of a cross. It is 3 stories in height, and, properly speaking, consists of only 3 rooms on each floor, connected together by long winding passages. There is reason, however, to believe that this is only a fragment of the building, and foundations exist which render it probable that the whole was originally a square of the width of the front, and had other chambers, probably only in wood or brick, besides those we now find. This would hardly detract from the playful character of the design, and when

coloured, as it originally was, and with its battlements or ornaments complete, it must have formed a composition as pleasing as it is unlike our usual conceptions of Egyptian art.

The other illustration represents in the Egyptians' own quaint style a 3-storied dwelling, the upper story apparently being like those of the Assyrians, an open gallery supported by dwarf columns. The lower windows are closed by shutters. In the centre is a staircase leading to the upper story, and on the left hand an awning supported on wooden pillars, which seems to have been an indispensable part of all the better class of dwellings. Generally speaking, these houses are shown as situated in gardens laid out in a quaint formal style, with pavilions, and fishponds, and all the other accompaniments of gardens in the East at the present day.



188. Elevation of a House. From an Egyptian painting.

In all the conveniences and elegances of building they seem to have anticipated all that has been done in those countries down to the present day. Indeed, in all probability, the ancient Egyptians surpassed the modern in those respects as much as they did in the more important forms of architecture.

Taken altogether, perhaps it may be safely asserted that the Egyptians were the most essentially a building people of all those we are acquainted with, and the most generally successful in all they attempted in this way. The Greeks, it is true, surpassed them in refinement and beauty of detail, and in the class of sculpture with which they ornamented their buildings, and the Gothic architects far excelled them in constructive cleverness; but besides these no other style can be put in competition with them. At the same time, neither Grecian nor Gothic architects understood more perfectly all the gradations of art, and the exact character that should be given to every form and every detail. Whether it was the plain flat-sided pyramid, the crowded and massive hypostyle hall, the playful pavilion, or the luxurious dwelling—in all these the Egyptian understood perfectly both how to make the general design express exactly what he wanted, and to make every detail, and all the various materials, contribute to the general effect. They understood, also, better than any other nation, how to use sculpture in combination with architecture, and to make their colossi and avenues of sphinxes group themselves into parts of one great design, and at the same time to use historical paintings, fading by insensible degrees into hieroglyphics on the one hand, and into sculpture on the other—linking the whole together with the highest class of phonetic utterance, and with the most brilliant colouring, thus harmonising all these arts into one great whole, unsurpassed by anything the world has seen during the thirty centuries of struggle and aspiration that have elapsed since the brilliant days of the great kingdom of the Pharaohs.

CHAPTER IV.

ETHIOPIA.

CONTENTS.

It was long a question with the learned whether civilisation ascended or descended the Nile—whether it was a fact, as the Greeks evidently believed, that Meroë was the parent state whence the Egyptians had migrated to the north, bringing with them the religion and the arts which afterwards flourished at Thebes and Memphis, — or whether these had been elaborated in the fertile plains of Egypt, and only in later times had extended to the Upper Nile.

Recent discoveries have rendered it nearly certain that the latter is the correct statement of the facts—within historic times at least—that the fertile and easily cultivated Delta was first occupied and civilised, then Thebes, and afterwards Meroë. At the same time it is by no means improbable that the Ethiopians were of the same stock as the Thebans, though differing essentially from the Memphites, and that the former may have regarded these remote kindred with respect, perhaps even with a degree of half-superstitious reverence due to their remote situation in the centre of a thinly peopled continent, and have in consequence invented those fables which the Greeks interpreted too literally.

If any such earlier civilisation existed in these lands, its records and its monuments have perished. No building is now found in Meroë whose date extends beyond the time of the great king Tirhakah, of the 25th Egyptian dynasty, B.C. 724 to 680, unless it be those bearing the name of one king, Amoum Gori, who was connected with the intruding race of sun-worshippers, which broke in upon the continuous succession of the kings of the 18th dynasty. Their monuments were all purposely destroyed by their successors; and the only records we have of them are the grottoes of Tell el Amarna, covered with their sculptures, which bear, it must be confessed, considerable resemblance in style to those found in Ethiopia. Even this indication is too slight to be of much value; and we must wait for some further confirmation before founding any reasoning upon it.

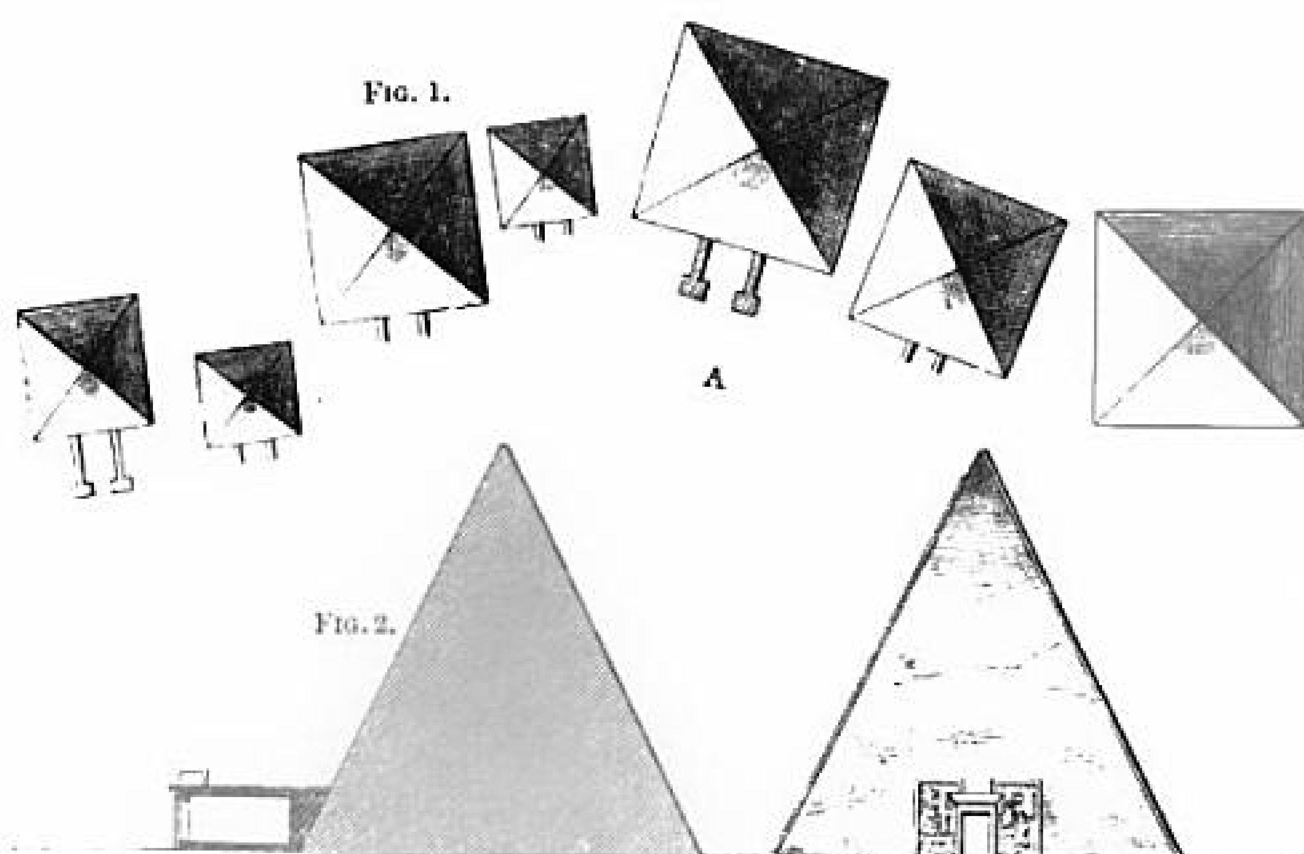
The principal monuments of Tirhakah are two temples at Gibel Barkal, a singular isolated mount near the great southern bend of the river. One is a large first-class temple, of purely Egyptian form and design, about 500 ft. in length, by 120 or 140 in width, consisting of

two great courts, with their propylons, and the internal halls and sanctuaries are arranged much like those of the Rhamession at Thebes (woodcut No. 167), and so nearly also on the same scale as to make it probable that the one is a copy of the other.

The other temple placed near this, but as usual unsymmetrically, consists of an outer hall, internally about 50 ft. by 60, whose roof is supported by 4 ranges of columns, all with capitals representing figures of Typhon or busts of Isis. This leads to an inner cell or sanctuary, cut in the rock.

There are smaller remains strewed about, indicating the existence of a city on the spot, but nothing of architectural importance.

The most remarkable monuments of the Nubian kingdom are the pyramids, of which 3 great groups have been discovered and described. The principal group is at a place called Dankelah, the assumed site of the ancient Meroë, in latitude 17° north. Another is at Gibel Barkal; the third at Nourri, a few miles lower down than the last named, but probably only another necropolis of the same city.



189. Pyramids at Meroë. From Hoskins' Travels in Ethiopia.

Fig. 1.—Plan of Principal Group. Scale 100 ft. to 1 inch. | Fig. 2.—Section and Elevation of that marked A. Scale 50 ft. to 1 inch.

Compared with the great Memphite examples, these pyramids are most insignificant in size—the largest at Nourri being only 110 ft. by 100; at Gibel Barkal the largest is only 88 ft. square; at Meroë none exceed 60 ft. each way. They differ also in form from those of Egypt, being much steeper, as their height is generally equal to the width of the base. They also all possess the roll-moulding on their angles, and all have a little porch or pronaos attached to one side, generally ornamented with sculpture, and forming either a chapel, or more probably the place where the coffin of the deceased was placed. We know from the Greeks that, so far from concealing the bodies of their dead, the Ethiopians had a manner of preserving them in some trans-

parent substance, so as to render them permanently visible after death.[1]

To those familiar with the rigid orientation of those of Lower Egypt, perhaps the most striking peculiarity of them is the more than Theban irregularity with which they are arranged, no two being ever placed, except by accident, at the same angle to the meridian, but the whole being grouped with the most picturesque irregularity, as chance seemed to dictate.

Among their constructive peculiarities it may be mentioned that they seem all to have been first built in successive terraces, each diminishing from that below it, something like the great pyramid at Saccara (woodcut No. 158), and were afterwards smoothed over by the external coating.

Like the temples of Gibel Barkal, all these buildings seem to belong to the Tirhakah epoch of the Ethiopian kingdom. It is extremely improbable that any of them are as old as the time of Solomon, or that any are later than the age of Cambyses, every indication seeming to point to a date between these two great epochs in the connection of African history and that of Asia.

The ruins at Wady-el-Ooatib, a little further up the Nile than Meroë, should perhaps be also mentioned here, if only from the importance given to them by Heeren, who thought he had discovered in them the ruins of the temple of Jupiter Ammon. They are, however, all in the debased style of the worst age of Ptolemaic or Roman art in this country. They are wholly without hieroglyphics, or any indication of sanctity or importance, and there can be little doubt that they are the remains of a caravanserai on the great commercial route between Egypt and Axoum, along which the greater part of the trade of the East arrived at Alexandria in the days of its magnificence.

Invention of the Arch.

Before leaving the subject of Egyptian architecture, it may be as well briefly to refer to the invention of the true arch, regarding which considerable misconception still exists.

It is generally supposed that the early Egyptians were ignorant of the true principles of the arch, and only employed two stones meeting one another at a certain angle in the centre when they wished to cover a larger space than could conveniently be done by a single block. This, however, seems to be a mistake, as many of the tombs and chambers around the pyramids are roofed by stone arches of a semicircular form, and perfect in every respect as far as the principles of the arch are concerned.

Several of these have been drawn by Lepsius, and are engraved in his work, but, as no text accompanies them, and the drawings are not on a sufficient scale to make out the hieroglyphics, where any exist, their date cannot now be ascertained. Consequently these examples

[1] Herodotus, iii. 24. Diodorus, ii. 15.

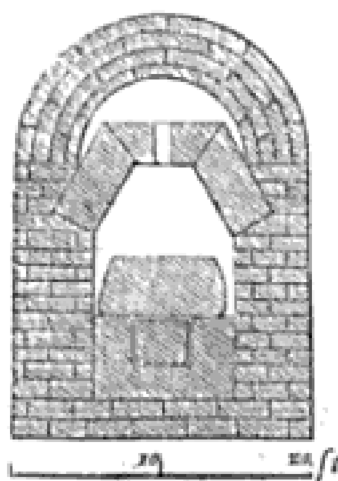
cannot yet be used as the foundation of any argument on the subject, though the curved form of the roofs in the third pyramid would alone be sufficient to render it more than probable that during the period of the 4th dynasty the Egyptians were familiar with this expedient.

At Beni Hassan, during the time of the 12th dynasty, curvilinear forms reappear in the roofs (woodcut No. 160), used in such a manner as to render it almost certain that they are copied from roofs of construction. Behind the Rhamession at Thebes there are a series of arches in brick, which seem undoubtedly to belong to the same age[1] as the building itself; and Sir G. Wilkinson mentions a tomb at Thebes, the roof of which is vaulted with bricks, and still bears the name of Amenoph I., of the 18th dynasty.

The temple at Abydos, erected by Rhamses II., shows the same peculiarity as the tombs at Beni Hassan, of a flat segmental arch thrown across between the stone architraves. In this instance it is also a copy in stone, but such as must have been copied from brick construction. There is also every reason to believe that the apartments of the little pavilion at Medinet Habou (woodcut No. 186) were covered with semicircular vaults, though these have now disappeared.[2]

In Ethiopia Mr. Hoskins found stone arches vaulting the roofs of the porches of the pyramids, perfect in construction, and, what is still more singular, showing both circular and pointed forms. These, as before remarked, are probably of the time of Tirhakah, or, at all events, not earlier than the age of Solomon, nor later than that of Cambyses.

In the age of Psammeticus we have several stone arches in the neighbourhood of the pyramids; one, in a tomb at Saccara, has been frequently drawn; but one of the most instructive is that in a tomb discovered by Colonel Campbell (woodcut No. 190), showing a very primitive form of an arch composed of 3 stones only, and above that is another arch of regular construction of 4 courses. In his researches at Nimroud, Layard discovered vaulted drains and chambers below the north-west and south-east edifices, which were consequently as old as the 8th or 9th century before our era, and contemporary with those in the pyramids of Meroë. They were of both circular and pointed forms, and constructed apparently with great care and attention to the principles of the arch (woodcut No. 191).



190. Section of Tomb near the Pyramids of Gizeh.

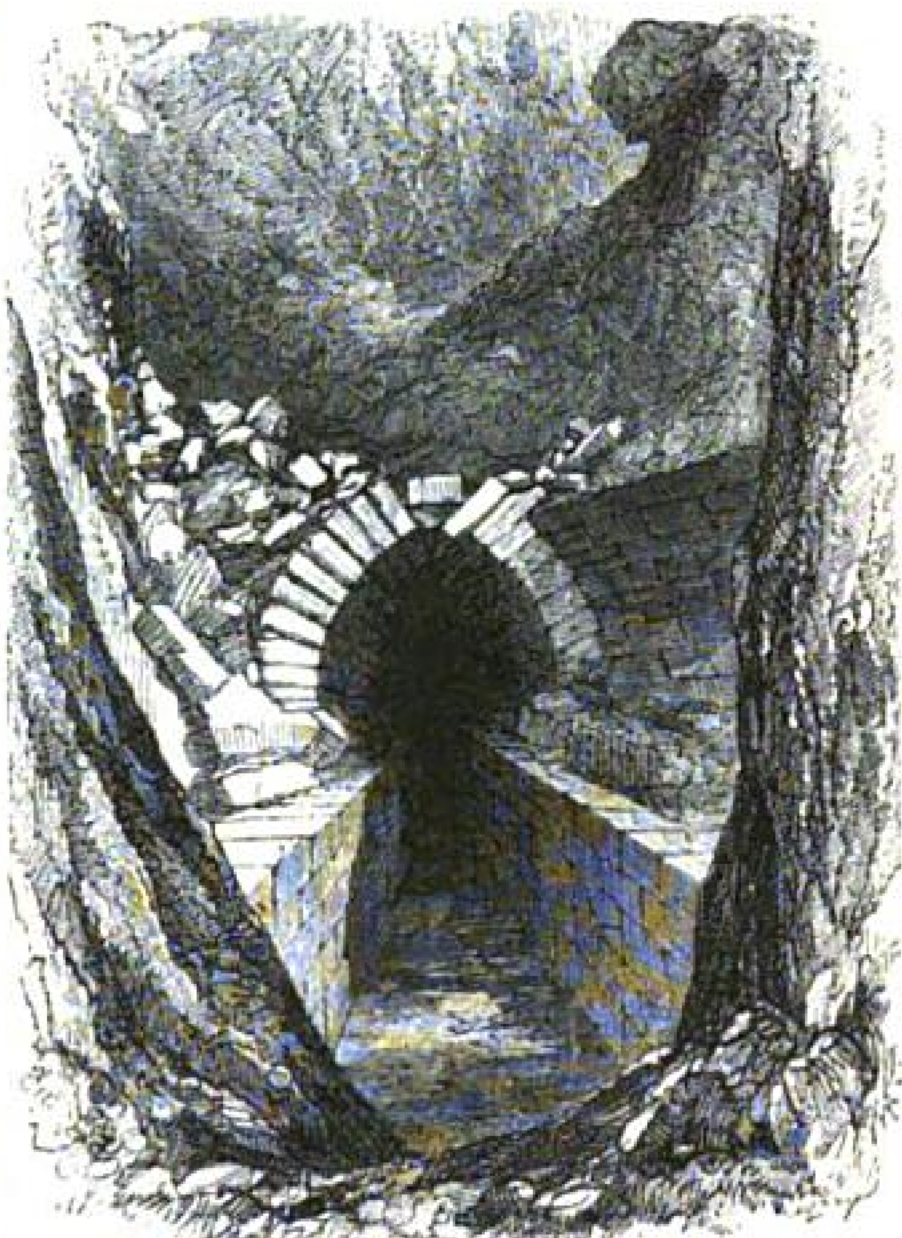
The great discovery of this class is that of the city gates at Khorsabad, which, as mentioned above (p. 173), were spanned by arches of semicircular form, so perfect both in construction and in the mode in which they were ornamented, as to prove that in the time of Sargon the arch was a usual and well-understood building expedient, and one consequently which we may fairly assume to have been long in use.

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[1] 'Egypt and Thebes,' pp. 81 and 126.

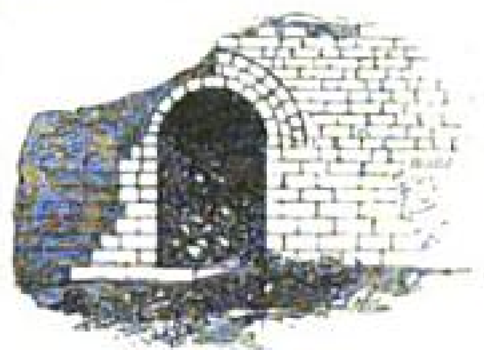
[2] Wilkinson's 'Manners and Customs of the Egyptians,' vol. iii. p. 263.

So far as we can now understand from the discoveries that have been made, it seems that the Assyrians used the pointed arch for tunnels, aqueducts, and generally for underground work where they feared great superincumbent pressure on the apex, and the round arch above ground where that was not to be dreaded; and in this they probably showed more science and discrimination than we do in such works.


191. Vaulted Drain beneath the South-East Palace at Nimroud.

In Europe the oldest arch is probably that of the Cloaca Maxima at Rome, constructed under the early kings. It is of stone in 3 rims, and shows as perfect a knowledge of the principle as any subsequent example. Its lasting uninjured to the present day proves how well the art was then understood, and, by inference, how long it must have been practised before reaching that degree of perfection.

From all this it becomes almost certain that the arch was used as early as the times of the pyramid-builders of the 4th dynasty, and was copied in the tombs of Beni Hassan in the 12th; though it may be that the earliest existing example cannot be dated further back than the first kings of the 18th dynasty; from that time, however, there can be no doubt that it was currently used, not only in Egypt, but also in Ethiopia and Assyria.

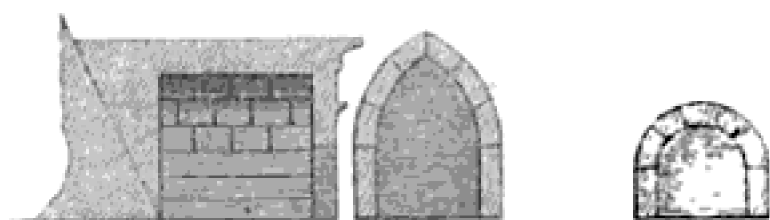

192. Arch of the Cloaca Maxima, Rome. Scale 50 ft. to 1 in.

It would, indeed, be more difficult to account for the fact of such perfect builders as the Egyptians being ignorant of the arch if such were the case; though, at the same time, it is easy to understand why they should use it so sparingly as they did in their monumental erections.

Even in the simplest arch, that formed of only two stones, such as is frequently found in the pyramids, and over the highest chamber, woodcut No. 157, it will be evident that any weight placed on the apex has a tendency to lower the summit, and press the lower ends of the

stones outwards. Where there was the whole mass of the pyramid to abut against, this was of no consequence, but in a slighter building it would have thrust the walls apart, and brought on inevitable ruin.

The introduction of a third stone, as in the arch, woodcut No. 190, hardly remedied this at all, the central stone acting like a wedge to thrust the 2 others apart; and even the introduction of 2 more stones, making 5, as in woodcut No. 193, only distributed the pressure without remedying the defect; and without the most perfect masonry every additional joint was only an additional source of weakness.



193. Arches in the Pyramids at Meroë. From Hoskins.

This has been felt by the architects of all ages and in all countries: still the advantage of being able to cover large spaces with small stones or bricks is so great, that many have been willing to run the risk; and all the ingenuity of the Gothic architects of the middle ages was applied to overcoming the difficulty. But even the best of their buildings are unstable from this cause, and require constant care and attention to keep them from falling.

The Indian architects have fallen into the other extreme, refusing to use the arch under any circumstances, and preferring the smallest dimensions and the most crowded interiors, rather than adopt what they consider so destructive an expedient.

The Egyptians seem to have followed a middle course, using arches either in tombs, where the rock formed an immoveable abutment; or in pyramids and buildings where the mass immensely overpowered the thrust; or underground, where the superincumbent earth prevented movement.

They seem also to have used flat segmental arches, of brickwork, between the rows of massive architraves which they placed on their pillars; and as all these abutted one another, like the arches of a bridge, except the external ones, which were sufficiently supported by the massive walls, the mode of construction was a sound one. This is exactly that which we have re-invented during the last 30 years, in consequence of the introduction of cast-iron beams, between which flat segmental arches of brick are thrown, when we wish to introduce a more solid and fire-proof construction than is possible with wood only.

In their use of the arch, as in everything else, the building science of the Egyptians seems to have been governed by the soundest principles and the most perfect knowledge of what was judicious and expedient, and what should be avoided. Many of their smaller edifices have no doubt perished from the scarcity of wood forcing the builders to employ brick arches, but they wisely avoided the use of these in all their larger monuments—in all, in fact, which they wished should endure to the latest posterity.



194. West View of the Acropolis restored. From Wordsworth's Athens.

BOOK VI.

CHAPTER I.

GREECE.

CONTENTS.

Historical notice — Pelasgic art — Tomb of Atreus — Other remains — Hellenic Greece — History of the orders — Doric order — The Parthenon — Ionic order — Corinthian order — Caryatides — Forms of temples — Mode of lighting — Municipal architecture — Theatres.

CHRONOLOGY.

	DATES.		DATES.
Atridæ at Mycenæ, from . . .	B.C. 1207 to 1104	Battle of Salamis	B.C. 480
Return of the Heraclidæ to Peloponnese .	1104	Theron at Agrigentum. Commences great temple	480
Olympiads commence.	776	Cimon at Athens. Temple of Theseus built	469
Cypselidæ at Corinth — Building of temple at Corinth, from	655 to 581	Pericles at Athens. Parthenon finished .	438
Selinus founded, and first temple commenced	626	Temple of Jupiter at Olympia finished .	436
Ascendancy of Ægina – Building of temple at Ægina, from	508 to 499	Propylæa at Athens built, from . .	437 to 432
Battle of Marathon	490	Selinus destroyed by Carthaginians. . .	410
		Erechtheium at Athens finished . . .	409
		Monument of Lysicrates at Athens. . .	335
		Death of Alexander the Great	324

Till within a very recent period the histories of Greece and Rome have been considered as the ancient histories of the world; and even now, in our universities and public schools, it is scarcely acknowledged that

a more ancient record has been read on the monuments of Egypt, and dug out of the bowels of the earth in Assyria.

It is nevertheless true that the decipherment of the hieroglyphics on the one hand, and the reading of the arrow-headed characters on the other, have disclosed to us two forms of civilisation anterior to that which reappeared in Greece in the 8th century before Christ. Based on those that preceded, it developed itself there with a degree of perfection never before seen, and in its own peculiar department never since surpassed.

These discoveries have been of the utmost importance, not only in correcting our hitherto narrow views of ancient history, but also as explaining much that was obscure, or utterly unintelligible, in those histories with which we were more immediately familiar. We now, for the first time, comprehend whence the Greeks obtained their arts and civilisation, and how far the character of these was affected by the sources from which they were derived.

Having already described the artistic forms of Egypt and Assyria, it is not difficult to discover the origin of almost every idea, and of every architectural feature, that afterwards was found in Greece. To comprehend her arts, it is necessary to bear in mind that Greece was inhabited by two distinct and separate races, the one aboriginal, as far as we know, which, for distinction's sake, may be called Pelasgic, a race which not only spread over Greece, but Etruria and Asia Minor, and before the war of Troy was generally the dominant race in all these countries. In Greece their power became extinct with the return of the Heraclidæ to the Peloponnese in the 11th century B.C. In Etruria they retained their supremacy till dispossessed by the Romans; and in Asia they never were, strictly speaking, superseded, though under Grecian influence their civilisation took a form widely different from what we find in the earlier ages.

The other, or Dorian race, may have existed in Greece from the earliest ages, but only superseded the Pelasgi politically about 10 centuries before Christ; but their civilisation took no new artistic form for at least 3 centuries afterwards, at which time what we know as the true Grecian form of art first made its appearance.

Architecturally these two races may be distinguished, the one as an Ionic, the other as a Doric race. We may feel sure that the Pelasgic race prevailed wherever the Ionic order is found; and the Doric order, in like manner, marks the exact degree of prevalence of the other race in the places where it exists.

Sparta may be considered as the head-quarters of the Doric, Arcadia of the Ionic races. In Athens they seem to have been nearly equally mixed, and in other states in varying proportions.

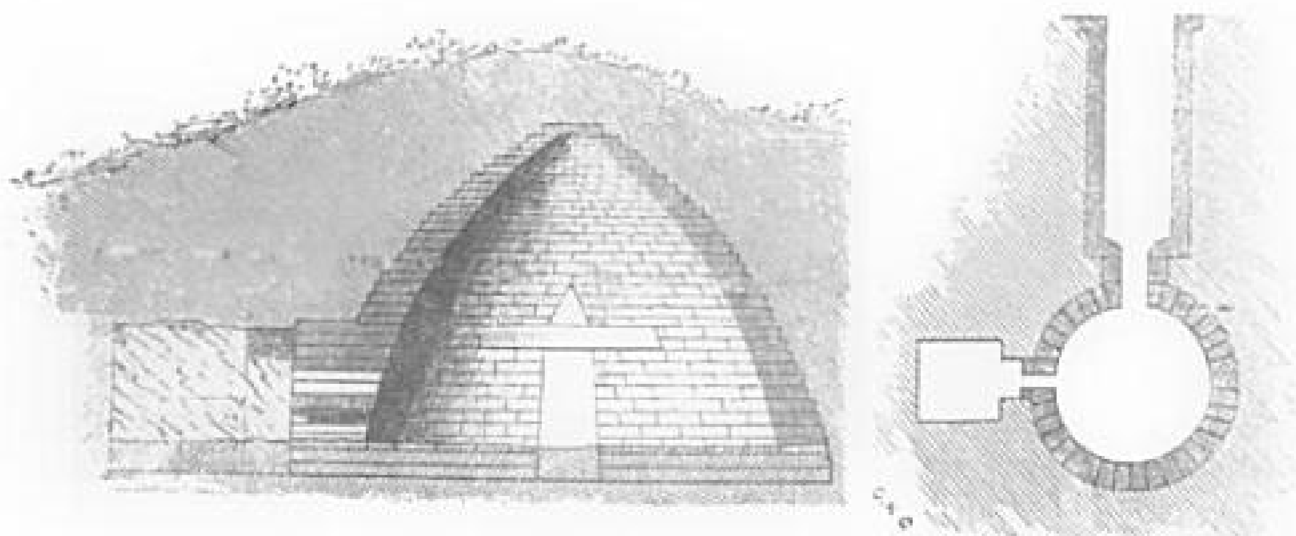
As in all countries and in all ages down to the present day, the Doric race, which was identical with, or at least closely allied to, the Teutonic, seems to have been far better adapted for the arts of war and self-government than for the softer arts of poetry and peace. The Pelasgi, on the other hand, as connected with the Celtic or Tartar races, seem to have had a peculiar facility in elaborating beauty, the

nicest perception of poetic elegance, and the justest appreciation of all that constitutes true artistic beauty of form and colour.

Thus the poetry of Arcadia was unknown in the neighbouring state of Sparta; but the Doric race there remained true to their institutions, and spread their colonies and their power further than any other of the little principalities of Greece. The institutions of Lycurgus could never have been maintained in Athens; but, on the other hand, the Parthenon was as impossible in the Lacedemonian state. Even in Athens art would not have been what it was without that happy admixture of the two races, mingling the common sense of the one with the artistic feeling of the other, so as to produce the most brilliant intellectual development which has yet dazzled the world with its splendour.

PELASGIC ART.

As might be supposed, from the length of time that has elapsed since the Pelasgic races held rule in Greece, and the numerous changes that have taken place in that country since their day, their architectural remains are few, and comparatively insignificant. Another cause that has contributed to this is, that, like the Assyrian and other cognate Asiatic races, they were not temple-builders. Places of worship they of course had, but slight and ephemeral as compared with those of their successors. From what we read in Homer, and should guess from their affinities, their palaces and dwellings, though remarkable for their extent and luxuriousness, were principally composed of wood, which has perished, and of metal, which afforded too tempting a bait to the plunderer to be allowed long to remain where it was. It thus came to pass that, if it were not for their tombs, their city walls, and their works of civil engineering, such as bridges and tunnels—in which they were pre-eminent—we should hardly now possess any material remains to prove their existence, or mark the degree of civilisation to which they had reached.

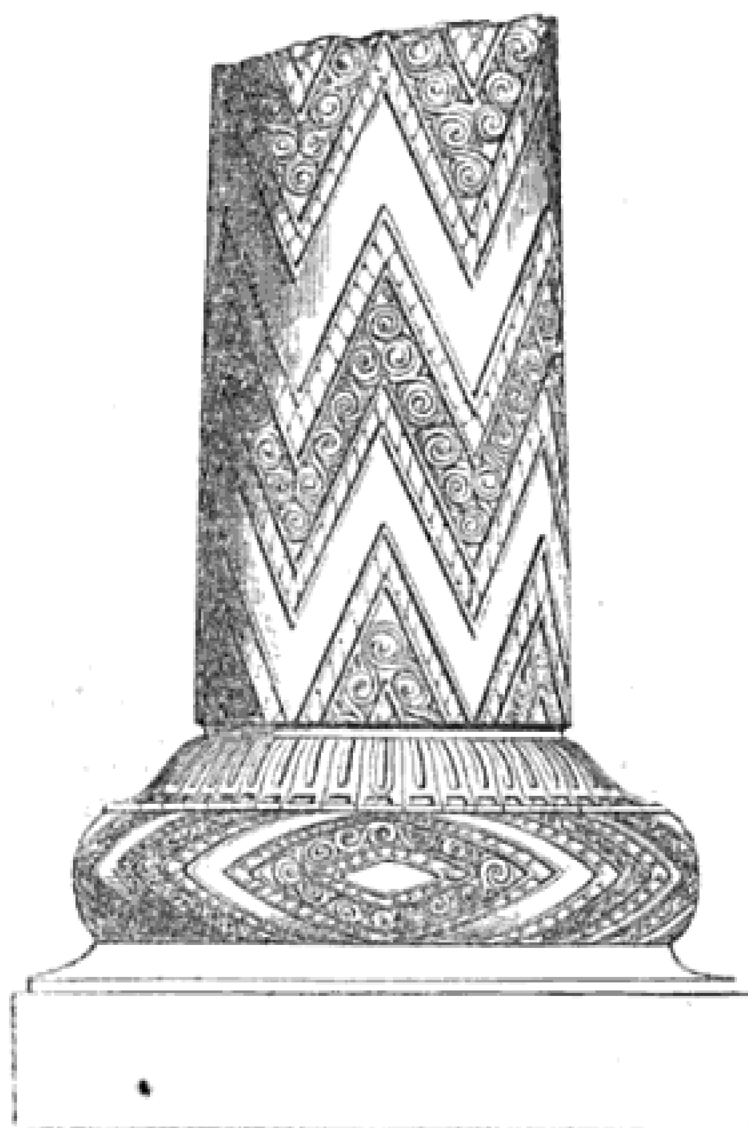


195. Section and Plan of Tomb of Atreus at Mycenæ. Scale of section 50 ft. to 1 in.; plan 100 ft. to 1 in.

The most remarkable of these remains are the tombs of the kings of Mycenæ. The Dorians described these as treasuries, as they looked upon such halls as far more than sufficient for the narrow dwelling

of the tomb. The most perfect and the largest of them now existing is known as the treasury or tomb of Atreus at Mycenæ, drawn to the usual scales in plan and section in the annexed woodcut. The principal chamber is 48 ft. 6 in. in diameter, and is, or was when perfect, of the shape of a regular equilateral pointed arch, a form well adapted to the mode of construction, which is that of horizontal layers of stones, projecting the one beyond the other, till one small stone closed the whole, and made the vault complete.

As before explained (page 73 *et seqq.*), this was the form of dome afterwards adopted by the Jaina architects in India, and it prevailed wherever a Pelasgic race is found, down to the time when the pointed form again came into use in the middle ages, though it was not then used as a horizontal, but as a radiating arch.


196. Base of Pillar in front of Tomb of Atreus at Mycenæ.

On one side of this hall is a chamber cut in the rock, the true sepulchre apparently, and externally is a long passage leading to a doorway, which, judging from the fragment that remains (woodcut No. 196), must have been of a purely Asiatic form of art, and very unlike anything found after this age in Greece.

Internally the dome was apparently lined with plates of brass or bronze, some nails of which are now found there; and the holes in which the nails were inserted are still to be seen all over the place. Another of these tombs, erected by Minyus at Orchomenos, seems to have been, from the description of Pausanias, at least 20 ft. wider than this one, and proportionably larger in every respect. All these were covered with earth, and many are now probably hidden which a diligent search might disclose. It is hardly, however, to be hoped that an unrifled tomb may be discovered in Greece, though numerous examples are found in Etruria. The very name of treasury must have excited the cupidity of the Greeks; and as their real destination was forgotten, no lingering respect for the dead could have held back the hand of the spoiler.

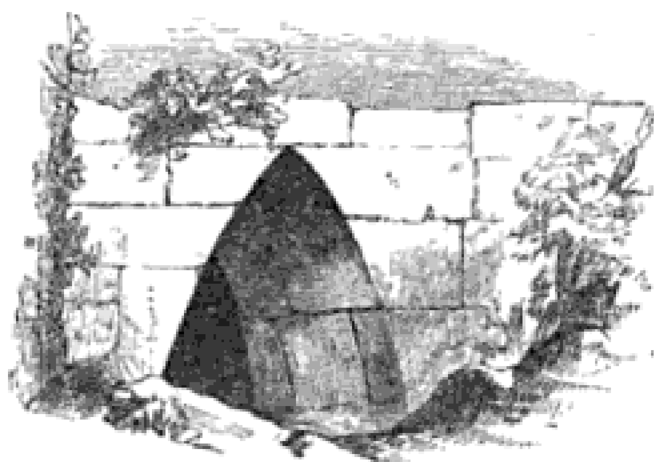
As domes constructed on the horizontal principle, these two are the largest of which we have any knowledge, though there does not seem to be any reasonable limit to the extent to which such a form of building might be carried. When backed by earth, as

these were, it is evident, from the mode of construction, that they cannot be destroyed by any equable pressure exerted from the exterior.

The only danger to be feared is, what is technically called, a rising of the haunches; and to avoid this it would be necessary, where large domes were attempted, to adopt a form more nearly conical than that used at Mycenæ. This might be a less pleasing architectural feature, but it is constructively a far better one than the form of the radiating domes we generally employ.

It is certainly to be regretted that more of the decorative features of this early style have not been discovered. They differ so entirely from anything else in Greece, and are so purely Asiatic in form, that it would be exceedingly curious to be able to restore a complete decoration of any sort. In all the parts hitherto brought to light, an Ionic-like scroll is repeated in every part and over every detail, rather rudely executed, but probably originally heightened by colour. Its counterparts are found in Assyria and at Persepolis, but nowhere else in Greece.

The Pelasgic races soon learnt to adopt for their doorways the more pleasing curvilinear form, with which they were already familiar from their interiors. The annexed illustration (woodcut No. 197) from a gateway at Thoricus, in Attica, serves to show its simplest and earliest form; and the next, from Assos, in Asia Minor, of a far more modern date, shows the most complicated form it took in ancient times. In this last instance it is merely a discharging arch, and so little fitted for the purpose to which it is applied, that we can only suppose that its adoption arose from a strong predilection in favour of this shape.



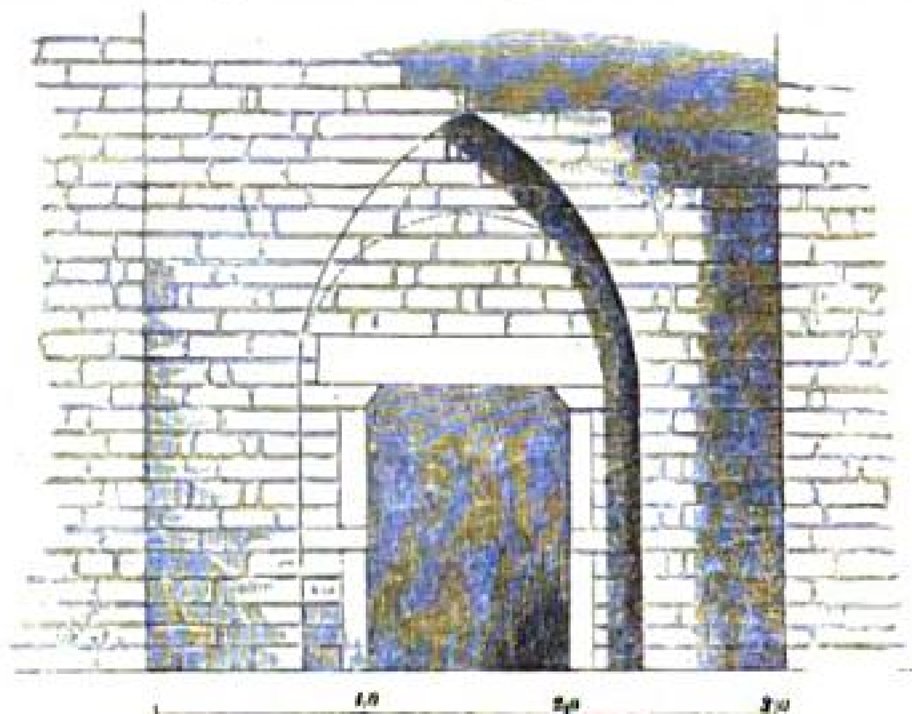
197. Gateway at Thoricus. From Dodwell's Greece.

Another illustration of Pelasgic masonry is found at Delos (woodcut No. 199), consisting of a roof formed by two arch stones, at a certain angle to one another, as in Egypt, and is further interesting as being associated with capitals of pillars formed of the front part of bulls, as in Assyria, pointing again to the intimate connexion that existed between Greece and Asia at this early period of her history.

In all these instances it does not seem to have been so much want of knowledge that led these early builders to adopt the horizontal in preference to the radiating principle, but a conviction of its greater durability, and also, perhaps, a certain predilection for an ancient mode.

In the construction of these walls they adhered, as a mere matter of taste, to forms which they must have known to be inferior to others. In the example, for instance, of a wall in the Peloponnesus (woodcut No. 200), we find the polygonal masonry of an earlier age actually

placed upon as perfect a specimen, built in regular courses, or what is technically called *ashlar* work, as any to be found in Greece; and on the other side of the gateway at Assos (woodcut No. 198) there exists a semicircular arch, shown by the dotted line. It is constructed horizontally, and could only have been copied from a radiating arch.



198. Gateway at Assos. From Texier's Asie Mineure.

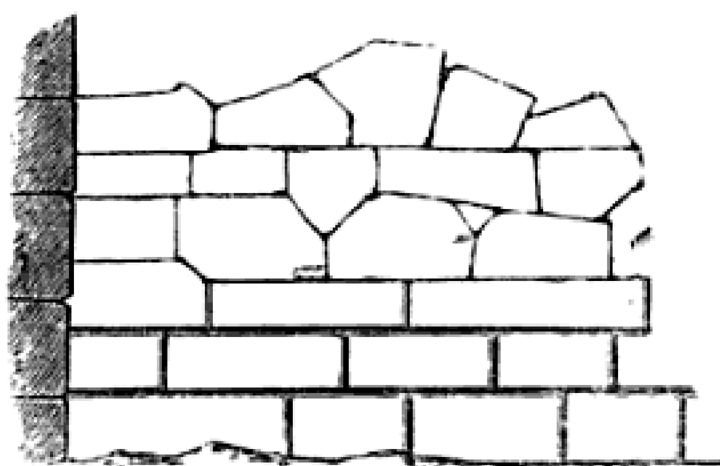


199. Arch at Delos. From Stuart's Athens.

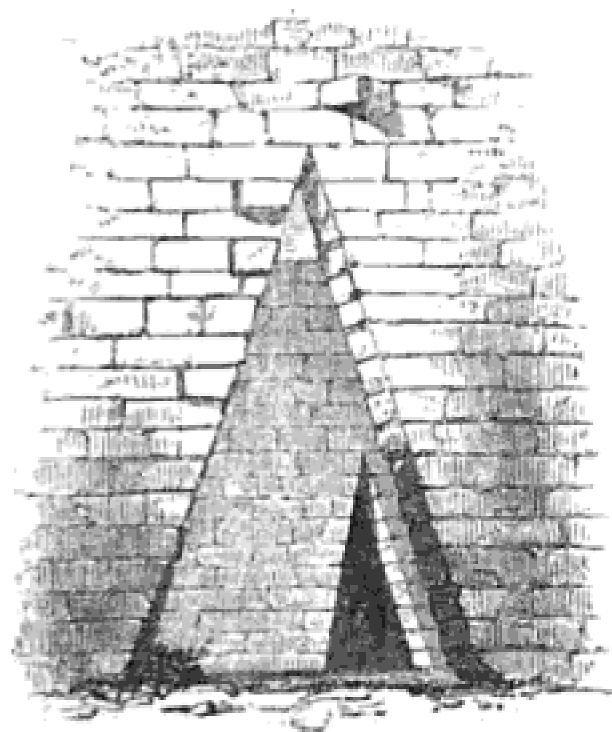
Their city walls are chiefly remarkable for the size of the blocks of stone, and for the beauty with which their irregular joints and courses are fitted into one another. Like most fortifications, they are generally devoid of ornament, the only architectural features being the openings. These are interesting, as showing the steps by which a peculiar form of masonry was perfected, which, in after ages, led to important architectural results.

One of the most primitive of these buildings is a nameless ruin existing near Missolonghi (woodcut No. 201). In it the sides of the opening are straight for the whole height, and, though making a very

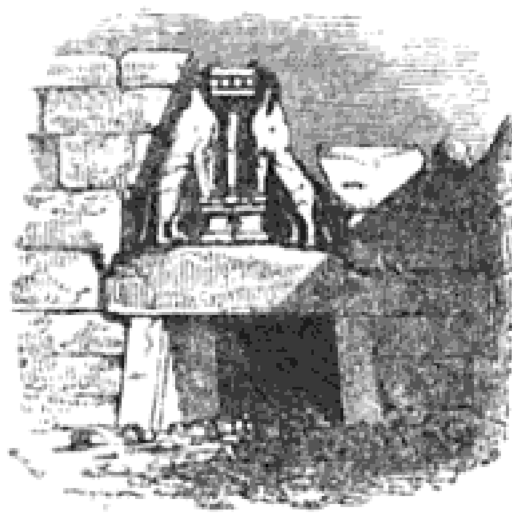
stable form of opening, it is one to which it is extremely difficult to fit doors, or to close by any known means. It is this that led to the next expedient of inserting a lintel at a certain height, and making the jambs more perpendicular below, and more sloping above. This method is already exemplified in the tomb of Atreus (woodcut No. 195), and in the gate of the Lions at Mycenæ (woodcut No. 202). It is by no means clear whether the pediments were always filled up with sculpture, as in this instance, or left open. In the walls of a town it probably was always closed, in that of a chamber left open. In the gate at Mycenæ the two lions stand against an altar,[1] shaped like a pillar of a form found in Lycia, in which the round ends of the timbers of the roof are shown as if projecting into the frieze.



200. Wall in Peloponnesus. From Blouet's Voyage en Grèce.

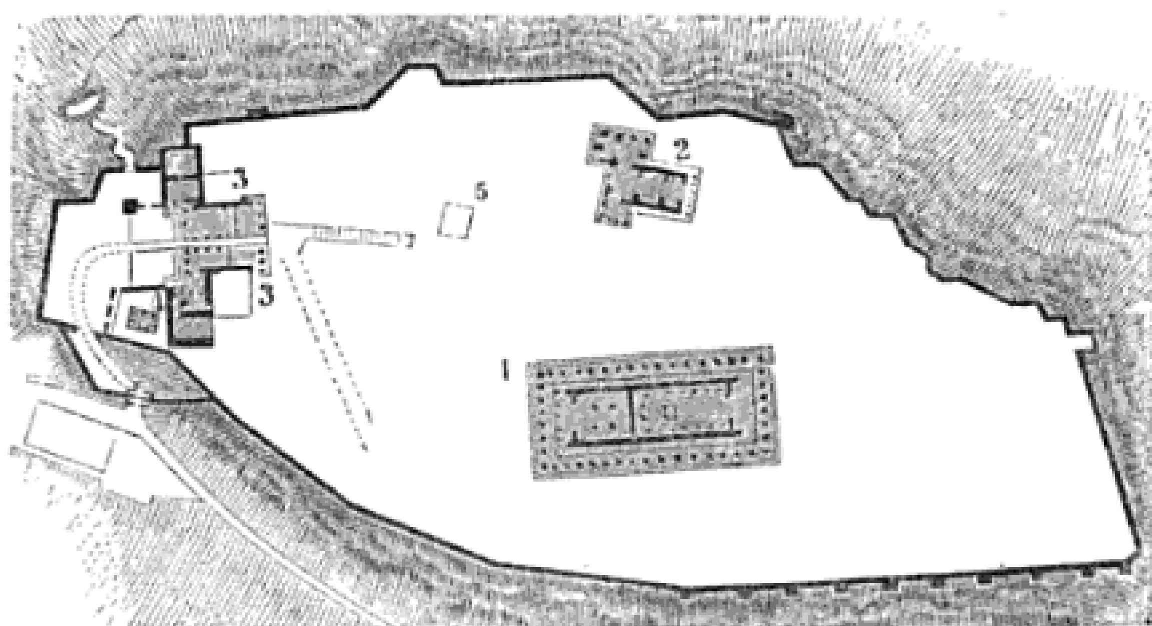


201. Doorway at Missolonghi.



202. Gate of Lions, Mycenæ.

[1] It is to be regretted that no cast has ever been taken of these, the oldest sculptures of their class in existence. The drawings hitherto made of them are so inexact that it is impossible to reason on them, whilst as types of a style they are the most interesting known to exist anywhere.



203. Plan of the Acropolis at Athens.

CHAPTER II.

HELLENIC GREECE.

HISTORY OF THE ORDERS.

The culminating period of the Pelasgic civilisation of Greece was at the time of the war with Troy—the last great military event of this age, and the one which closed the long and intimate connexion of the Pelasgians with their cognate races in Asia.

Sixty years later the irruption of the Thessalians, and twenty years after that event the return of the Heracleidæ, closed for ever that chapter in history, and gave rise to the Dorian civilisation, which is the great and true glory of Greece.

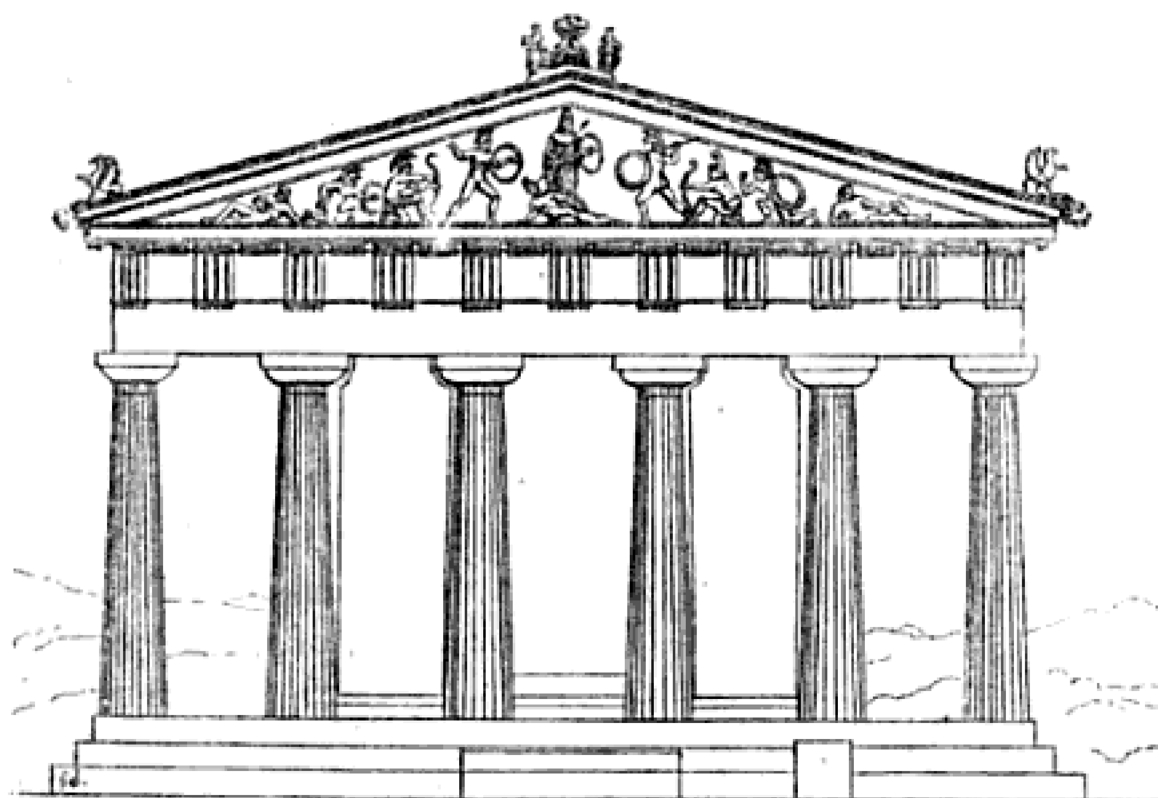
Four centuries, however, elapsed, which may be truly called the dark ages of Greece, before the new seed bore fruit, at least as far as art is concerned. These ages produced, it is true, the laws of Lycurgus, a characteristic effort of a truly Arian race, conferring on the people who invented them that power of self-government, and capability for republican institutions, which gave them such stability at home and such power abroad, but which were as inimical to the softer glories of the fine arts in Sparta as they have proved elsewhere.

When, after this long night, art reappeared, it was at Corinth, under the Cypselidæ, a race of strongly marked Asiatic tendencies; but the art had then undergone such a transformation as almost to startle us. It is no longer the elegant and ornate forms of Mycenæ, and the cognate Asiatic art, but the rude, bold proportions of Egyptian art, and with almost more than Egyptian massiveness.

The age of the Doric temple at Corinth is not, it is true, satisfactorily determined; but the balance of evidence would lead us to believe that it belongs to the age of Cypselus, or about 650 B.C. The pillars are less than 4 diameters in height, and the architrave—the

only part of the superstructure that now remains—is proportionately heavy. It is, indeed, one of the most massive specimens of architecture existing, more so than even its rock-cut prototype at Beni-Hassan, from which it is most indubitably copied. As a work of art, it fails from excess of strength, a fault common to most of the efforts of a rude people, ignorant of their own resources, and striving, by the expression of physical strength alone, to obtain all the objects of their art.

Next in age to this is the temple at Ægina. Its date, too, is unknown, though, judging from the character of its sculpture, it probably belongs to the middle of the sixth century before Christ.



204. Temple at Ægina restored. No scale.

We know that Athens had a great temple on the Acropolis, contemporary with these, and the frusta of its columns still remain, which, after its destruction by the Persians, were built into the walls of the citadel. It is more than probable that all the principal cities of Greece had temples commensurate with their dignity before the Persian war. Many of these were destroyed during that struggle; but it also happened then, as in France and England in the 12th and 13th centuries, that the old temples were thought unworthy of the national greatness, and of that feeling of exaltation arising from the successful result of the greatest of their wars, so that almost all those which remained were pulled down or rebuilt. The consequence is, that nearly all the great temples now found in Greece were built in the 40 or 50 years that succeeded the defeat of the Persians at Salamis and Platæa.

The oldest temple of this class is that best known as the Theseium, or temple of Theseus, at Athens, though by some believed to be more properly that of the god Mars. It constitutes a link between the archaic and the perfect age of Grecian art, more perfect than the temple at Ægina or any that preceded it, but falling short of the perfection of the Parthenon, its near neighbour both in locality and date.

Of all the great temples, the best and most celebrated is the Parthenon, the only octastyle Doric temple in Greece, and in its own class undoubtedly the most beautiful building in the world. It is true it

has neither the dimensions nor the wondrous expression of power and eternity inherent in Egyptian temples, nor has it the variety and poetry of the Gothic cathedral; but for intellectual beauty, for perfection of proportion, for beauty of detail, and for the exquisite perception of the highest and most recondite principles of art ever applied to architecture, it stands utterly and entirely alone and unrivalled—the glory of Greece, and the shame of the rest of the world.

Next in size and in beauty to this was the great hexastyle temple of Jupiter at Olympia, finished two years later than the Parthenon. Its dimensions were nearly the same, but, having only 6 pillars in front instead of 8, as in the Parthenon, the proportions were different, this temple being 95 ft. by 230, the Parthenon 101 ft. by 227.

To the same age belongs the exquisite little temple of Apollo Epicurius at Bassæ (47 ft. by 125), the temple of Minerva at Sunium, the greater temple at Rhamnus, the Propylæa at Athens, and indeed all that is greatest and most beautiful in the architecture of Greece. The temple of Ceres at Eleusis also was founded and designed at this period, but its execution belongs to a later date.

Sicily.

Owing, probably, to some local peculiarity, which we have not now the means of explaining, the Dorian colonies of Sicily and Magna Græcia seem to have possessed, in the days of their prosperity, a greater number of temples, and certainly retain the traces of many more, than were or are to be found in any of the great cities of the mother country. The one city of Selinus alone possesses 6 in two groups, 3 in the citadel, and 3 in the city. Of these the oldest is the central one of the first-named group. Its sculptures, first discovered by Messrs. Angell and Harris, indicate an age only slightly subsequent to the foundation of the colony, B.C. 636, and therefore probably nearly contemporary with the example above mentioned at Corinth. The most modern is the great octastyle temple, which seems to have been left unfinished at the time of the destruction of the city by the Carthaginians, B.C. 410. The remaining 4 range between these dates, and therefore form a tolerably perfect chronometric series at that time when the arts of Greece itself fail us. The inferiority, however, of provincial art, as compared with that of Greece itself, prevents us from applying such a test with too much confidence to the real history of the art, though it is undoubtedly valuable as a secondary illustration.

At Agrigentum there are 3 Doric temples, 2 small hexastyles, whose age may be about 500 to 480 B.C., and one great exceptional example, the largest of all the Grecian temples of the age, being 360 ft. long by 173 broad. These gigantic dimensions, however, were beyond the legitimate powers or proportions of the order employed; and the architect was consequently forced to adopt expedients which must always have rendered it a clumsy though a magnificent building. Its date is perfectly known, as it was commenced by Theron, B.C. 480, and left unfinished seventy-five years afterwards, when the city was destroyed by the Carthaginians.

At Syracuse there still exist the ruins of a very beautiful temple of this age; and at Egesta are remains of another in a much more perfect state.

Pæstum, in Magna Græcia, boasts of the most magnificent group of temples after that at Agrigentum. One is a very beautiful hexastyle, belonging probably to the middle of the fifth century B.C., built in a bold and very pure style of Doric architecture, and still retains the greater part of its internal columnar arrangement.

The other two are more modern, and far less pure either in plan or in detail, one having nine columns at each end, the central pillar being meant to correspond with an internal range of pillars, supporting the ridge of the roof. The other, though of a regular form, is so modified by local peculiarities, so corrupt in fact, as hardly to deserve being ranked with the beautiful order which it most resembles.

IONIC.

We have even fewer materials for the history of the Ionic order in Greece than we have for that of the Doric. The recent discoveries in Assyria have proved, beyond a shadow of a doubt, that the Ionic was even more essentially an introduction from Asia than the Doric was from Egypt: the only question is, when it was brought into Greece. My own impression is, that it existed there in one form or another from the earliest ages, but, owing to its slenderer proportions, and the greater quantity of wood used in its construction, the examples may have perished, so that nothing is now known to exist which can claim even as great an antiquity as the Persian war.

The oldest example, probably, was the temple on the Ilissus, now destroyed, dating from about 484 B.C.; next the little gem of a temple dedicated to Nikè Apteros, or the Wingless Victory, about 15 years later, in front of the Propylæa at Athens. The last and most perfect of all the examples of this order is the Erechtheium, on the Acropolis: its date is apparently about 420 B.C., the great epoch of Athenian art. Nowhere did the exquisite taste and skill of the Athenians show themselves to greater advantage than here; for though every detail of the order may be traced back to Nineveh or Persepolis, all are so purified, so imbued with purely Grecian taste and feeling, that they have become essential parts of a far more beautiful order than ever existed in their native country.

The largest, and perhaps the finest, of Grecian Ionic temples, was that built about a century afterwards, at Tegea, in Arcadia—a regular peripteral temple, of considerable dimensions, but whose existence is now known only from the description of Pausanias.

As in the case, however, of the Doric order, it is not in Greece itself that we find either the greatest number of temples of this order, or those most remarkable for size, but in the colonies in Asia Minor, and more especially in Ionia, whence the order most properly takes its name.

That an Ionic order existed in Asia Minor before the Persian wars is quite certain, but all examples perished in that memorable

struggle; and when it reappeared after it, the order had lost much of its purely Asiatic character, and assumed certain forms and tendencies borrowed from the simpler and purer Doric style.

If any temple in the Asiatic Greek colonies escaped destruction in the Persian wars, it was that of Juno at Samos. It is said to have been built by Polycrates, and appears to have been of the Doric order. The ruins now found there are of the Ionic order, 346 ft. by 189 ft., and which must have succeeded the first mentioned. The apparent archaisms in the form of the bases, &c., which have misled antiquarians, are merely Eastern forms retained in spite of Grecian influence.

More remarkable even than this was the celebrated temple of Diana at Ephesus, 425 ft. long by 220 ft. wide, consequently covering 93,500 ft., or a larger area than any ancient temple known out of Egypt, or any mediæval cathedral, except Milan, which is slightly larger. Even its site, however, is now a matter of dispute.

Besides these, there was a splendid decastyle temple, dedicated to Apollo Didymæus, at Miletus, 165 ft. wide by 302 ft. in length; an octastyle at Sardis, 261 ft. by 144 ft.; an exquisitely beautiful, though small hexastyle, at Priene, 122 ft. by 64 ft.; and another at Teos, besides smaller examples elsewhere, and many which have no doubt perished.

Corinthian.

The Corinthian order is as essentially borrowed from the bell-shaped capitals of Egypt, as the Doric is from their oldest pillars. Like everything they touched, the Greeks soon rendered it their own, by the freedom and elegance with which they treated it. The acanthus-leaf with which they adorned it is essentially Grecian, and we must suppose that it had been used by them as an ornament, either in their metal or wood work, long before they adopted it in stone as an architectural feature.

As in everything else, however, the Greeks could not help betraying in this also the Asiatic origin of their art, and the Egyptian order with them was soon wedded to the Ionic, whose volutes became an essential, though subdued part of this order. It is in fact a composite order, made up of the bell-shaped capitals of the Egyptians and the spiral of the Assyrians, and adopted by the Greeks at a time when national distinctions were rapidly disappearing, and when true and severer art was giving place to love of variety. At that time also mere ornament and carving were supplanting the purer class of form and the higher aspirations of sculpture with which the Greeks ornamented their temples in their best days.

In Greece the order does not appear to have been introduced, or at least generally used, before the age of Alexander the Great; the oldest authentic example, and also one of the most beautiful, being the Choragic Monument of Lysicrates (B.C. 335), which, notwithstanding the smallness of its dimensions, is one of the most beautiful works of art of the merely ornamental class to be found in any part of the world. A simpler example, but by no means so beautiful, is that of the small porticos of the building commonly but improperly called the

Tower of the Winds at Athens. The largest example in Greece of the Corinthian order is the temple of Jupiter Olympius at Athens. This, however, may almost be called a Roman building, though on Grecian soil—having been commenced in its present form under Antiochus Epiphanes, in the 2nd century B.C., by the Roman architect Cossutius, and only finished by Hadrian, to whom probably we may ascribe the greatest part of what now remains. Its dimensions are 171 ft. by 354 ft., or nearly those of the interior of the great Hypostyle Hall at Karnac; and from the number of its columns, their size and their beauty, it may be considered as the most beautiful Corinthian temple of the ancient world.

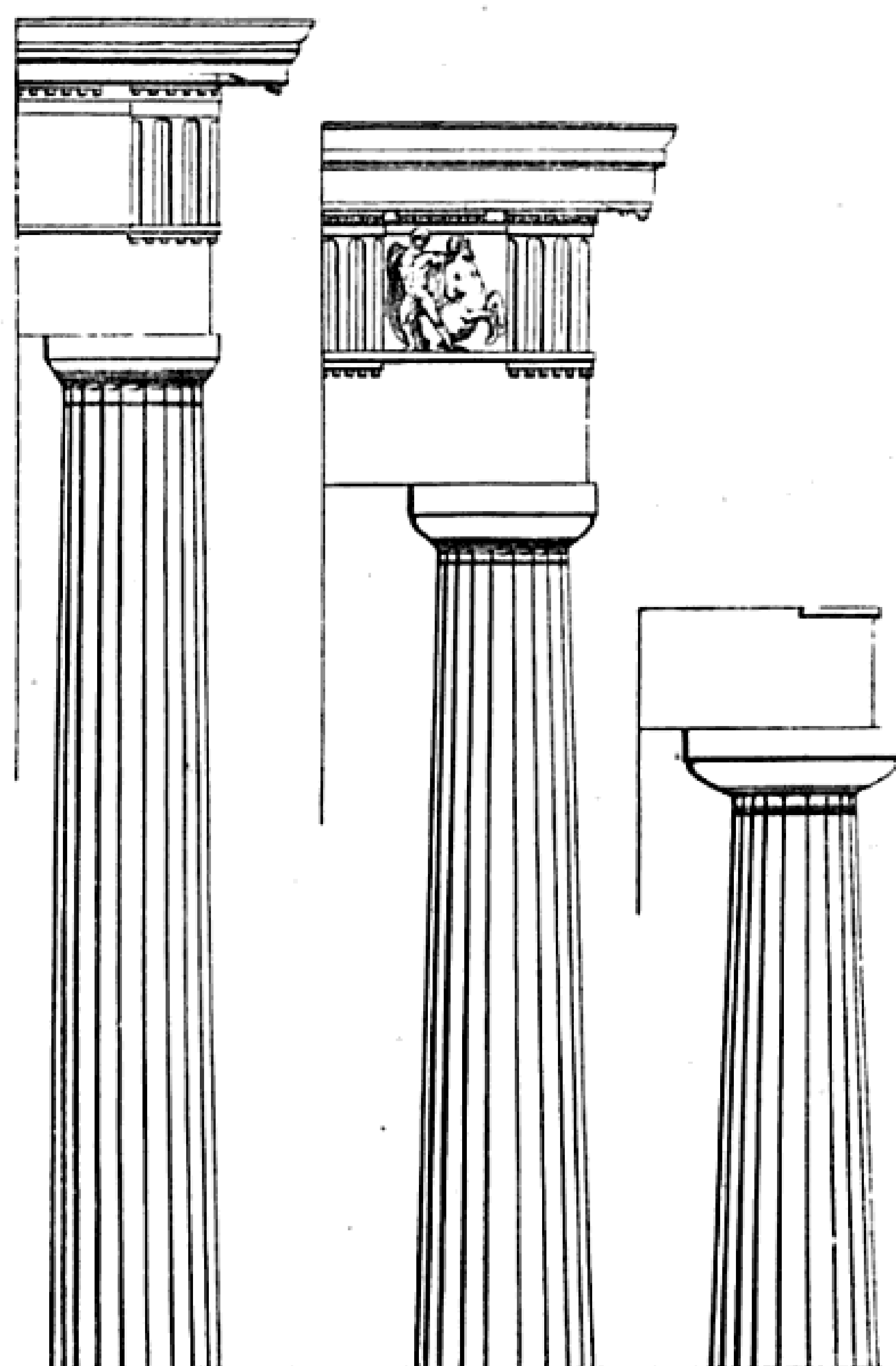
Judging, however, from some fragments found among the Ionic temples of Asia Minor, it appears that the Corinthian order was introduced there before we find any trace of it in Greece Proper. Indeed, *à priori* we might expect that its introduction into Greece was a part of that reaction which the elegant and luxurious Asiatics exercised on the severer and more manly inhabitants of European Greece, and which was in fact the main cause of their subjection, first to the Macedonians, and finally beneath the iron yoke of Rome. As used by the Asiatics, it seems to have arisen from the introduction of the bell-shaped capital of the Egyptians, to which they applied the acanthus-leaf, sometimes in conjunction with the honeysuckle ornament of the time, as in woodcut No. 205, and on other and later occasions together with the volutes of the same order, the latter combination being the one which ultimately prevailed, and became the typical form of the Corinthian capital.



205. Ancient Corinthian Capital. From Branchidæ.

DORIC ORDER.

The Doric was the order which the Greeks especially loved and cultivated so as to make it most exclusively their own; and, as used in the Parthenon, it certainly is as complete and as perfect an architectural feature as any style can boast of. When first introduced from Egypt, it, as before stated, partook of even more than Egyptian solidity, but by degrees became attenuated to the weak and lean form of the Roman order of the same name. Woodcut No. 206 illustrates the three stages of progress from the oldest example at Corinth to the order as used in the time of Philip at Delos, the intermediate being the culminating point in the age of Pericles: the first is 4·47 diameters in height, the next 6·025, the last 7·015; and if the table were filled up with all the other examples, the gradual attenuation of the shaft would very nearly give the relative date of the example. This fact is in itself sufficient to refute the idea of the pillar being copied from a



206. Temple at Delos. Parthenon at Athens. Temple at Corinth.

wooden post, as in that case it would have been slenderer at first, and would gradually have departed from the wooden form as the style advanced. This is the case in all primitive styles. With the Doric order the contrary is the case. The earlier the example the more unlike it is to any wooden original. As the masons advanced in skill and power over their stone material, it came more and more to resemble posts or pillars of wood. The fact appears to be, that either in Egypt or in early Greece the pillar was originally a pier of brickwork, or of rubble masonry, supporting a wooden roof, of which the architraves, the triglyphs, and the various parts of the cornice, all bore traces down to the later period.

Even as ordinarily represented, or as copied in this country, there is a degree of solidity combined with elegance in this order, and an exquisite proportion of the parts to one another, and to the work they have to perform, that command the admiration of every person of taste; but, as used in Greece, its beauty was very much enhanced by a

number of refinements, whose existence was not suspected till lately, and even now cannot be detected but by the most practised eye.

The columns were at first assumed to be bounded by straight lines. It is now found that they have an *entasis*, or convex profile, in the Parthenon to the extent of $\frac{1}{550}$ of the whole height, and are bounded by a very delicate hyperbolic curve; it is true this can hardly be detected by the eye in ordinary positions, but the want of it gives that rigidity and poverty to the column which is observable in modern examples.[1]

In like manner, the architrave in all temples was carried upwards, so as to form a very flat arch, just sufficient to correct the optical delusion arising from the interference of the sloping lines of the pediment. This, I believe, was common to all temples, but in the Parthenon the curve was applied to the sides also, though from what motive it is not so easy to detect.

Another refinement was making all the columns slope slightly inwards, so as to give an idea of strength and support to the whole. Add to this, that all the curved lines used were either hyperbolas or parabolas. With one exception only, no circular line was employed, nor even an ellipse. Every part of the temple was also arranged with the most unbounded care and accuracy, and every detail of the masonry was carried out with a precision and beauty of execution which is almost unrivalled, and it may be added that the material of the whole was the purest and best white marble. All these delicate adjustments, this exquisite finish and attention to even the smallest details, are well bestowed on a design in itself simple, beautiful, and appropriate. They combine to render this order, as found in the best Greek temples, as nearly faultless as any work of art can possibly be, and such as we may dwell upon with the most unmixed and unvarying satisfaction.

To understand, however, the Doric order, we must not regard it as a merely masonic form. Sculpture was always used, or intended to be used, with it. The metopes between the triglyphs, the pediments of the porticos, and the acroteria or pedestals on the roof, are all unmeaning and useless unless filled or surmounted with sculptured figures. Sculpture is, indeed, as essential a part of this order as the acanthus-leaves and ornaments of the cornice are to the capitals and entablature of the Corinthian order; and without it, or without its place being supplied by painting, we are merely looking at the dead



207. The Parthenon. Scale 50 ft. to 1 in.

[1] These facts have all been fully elucidated by Mr. Penrose in his beautiful work containing the results of his researches on the Parthenon and other temples of Greece, published by the Dilettanti Society.

skeleton, the mere framework of the order, without the flesh and blood that gave it life and purpose.

It is when all these parts are combined together, as in the portico of the Parthenon (woodcut No. 207), that we can understand this order in all its perfection; for though each part was beautiful in itself, their full value can be appreciated only as parts of a great whole.

Another essential part of the order, too often overlooked, is the colour, which was as integral a part of it as its form. Till very lately, it was denied that Greek temples were, or could be, painted: the unmistakeable remains of it, however, that have been discovered in almost all temples, and the greater knowledge of the value and use of colour which now prevails, have altered the public opinion very much on the matter, and most people admit that some colour was used, though few are agreed as to the extent to which it was carried.

It cannot now be questioned that colour was used everywhere internally, and on every object. Externally too it is generally admitted that the sculpture was painted and relieved by strongly coloured backgrounds; the lacunaria, or recesses of the roof, were also certainly painted, and all the architectural mouldings, which at a later period were carved in relief, have been found to retain traces of their painted ornaments.

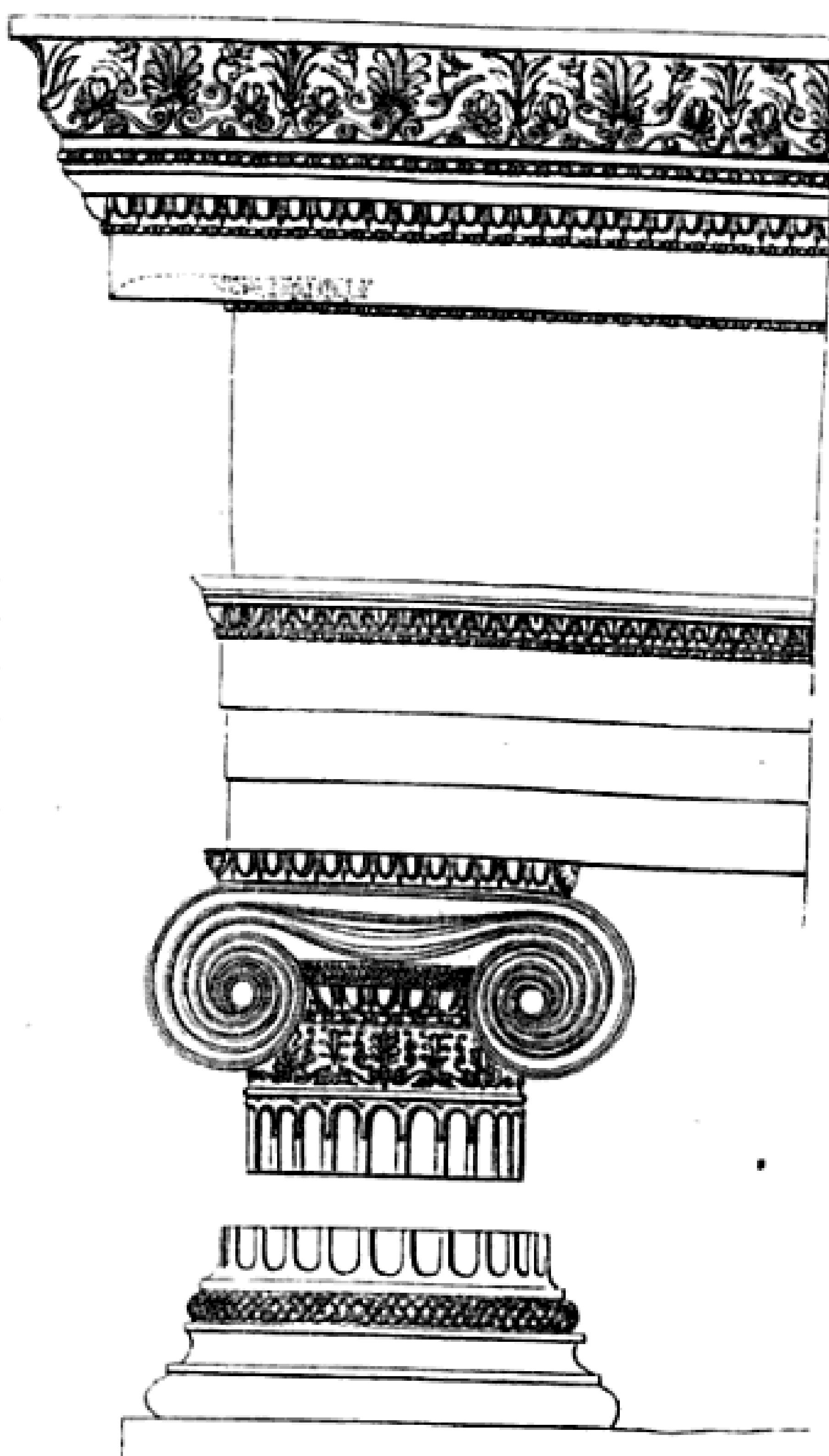
It is disputed whether the echinus or curved moulding of the capital was so ornamented. I think it undoubtedly was; and the walls of the cells were also coloured throughout and covered with paintings illustrative of the legends and attributes of the divinity to whom the temple was dedicated, or of the purposes for which it was erected. The plane face of the architrave, I believe, was left white, or merely ornamented with metal shields or inscriptions, and the shafts of the columns seem also to have been left plain, or merely slightly stained to tone down the crudeness of the white marble. Generally speaking, all those parts which from their form or position were in any degree protected from the rain or atmospheric influences seem to have been coloured; those particularly exposed, to have been left plain. To whatever extent, however, it may have been carried, these coloured ornaments were as essential a part of the Doric order as the carved ornaments were of the Corinthian, and made it, when perfect, a richer and more ornamental, as it was a more solid and stable, order than the latter. The colour nowhere interfered with the beauty of its forms, but gave it that richness and amount of ornamentation which is indispensable in all except the most colossal buildings, and a most valuable adjunct even to them.

Ionic.

The Ionic order, as we now find it, is not without some decided advantages over the Doric. It is more complete in itself and less dependent on sculpture. Its frieze was too small for much display of human life and action, and was probably usually ornamented with lines of animals[1] like the friezes at Persepolis. But the frieze of the little

[1] It was called Zoophorus (*life* or *figure bearer*).

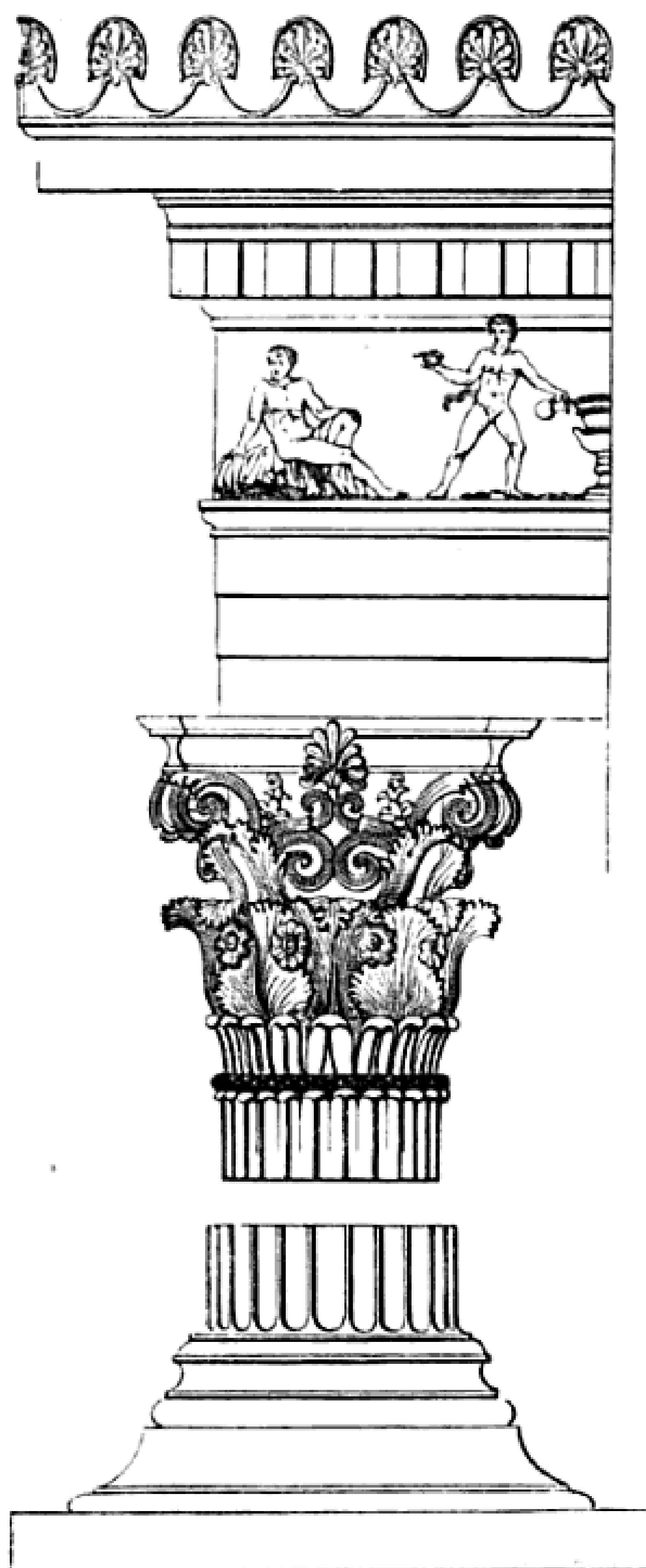
temple of Nikè Apteros is brilliantly ornamented in the same style as those of the Doric order. It also happened that those details and ornaments which were only painted in the Doric, are carved in the Ionic order, and remain therefore visible to the present day, which gives to this order a completeness in our eyes which the other cannot boast of. Add to this a certain degree of Asiatic elegance and grace. All this when put together makes up a singularly pleasing architectural object. But notwithstanding these advantages the Doric order will probably always be admitted to be superior, as belonging to a higher class of art, and because all its forms and details are better and more adapted to their purpose than these are.



208. Ionic order of Erechtheium at Athens.

The principal characteristic of the Ionic order is the Pelasgic or Asiatic spiral, here called a volute, which, notwithstanding its elegance, forms at best but an awkward capital. The Assyrian honeysuckle below this, carved as it is with the exquisite feeling and taste which a Greek only knew how to impart to such an object, forms as elegant an architectural detail as is anywhere to be found; and whether used as the necking of a column, or on the crowning member of a cornice, or on other parts connected with the order, is everywhere the most beautiful ornament connected with it. Comparing this order with that at Persepolis (woodcut No. 140), the only truly Asiatic prototype we have of it, we see how much the Doric feeling of the Greeks had done to sober it down, by abbreviating the capital and omitting the greater part of the base. This process was carried much farther when the order was used in conjunction with the Doric, as in the Propylæa, than when used by itself, as in the Erechtheium; still in every case all the parts found in the Asiatic style are

found in the Greek. The same form and feelings pervade both; and, except in beauty of execution and detail, it is not quite clear how far even the Greek order is an improvement on the Eastern one. The Persepolitan base is certainly the more beautiful of the two; so are many parts of the capital. The perfection of the whole, however, depends on the mode in which it was employed; and it is perfectly evident that the Persian order could not be combined with the Doric, nor applied with much propriety as an external order, which was the essential use of all the Grecian forms of pillars.



209. Order of the Choragic Monument of Lysicrates.

Notwithstanding the amount of carving which the Ionic order displays, there can be little doubt but that it was also ornamented with colour to a considerable extent, but probably in a different manner from the Doric. My own impression is, that the carved parts were gilt, or picked out with gold, relieved by coloured grounds, varied according to the situation in which they were found. The existing remains prove that colours were used in juxtaposition to relieve and heighten the architectural effect of the carved ornaments of this order.

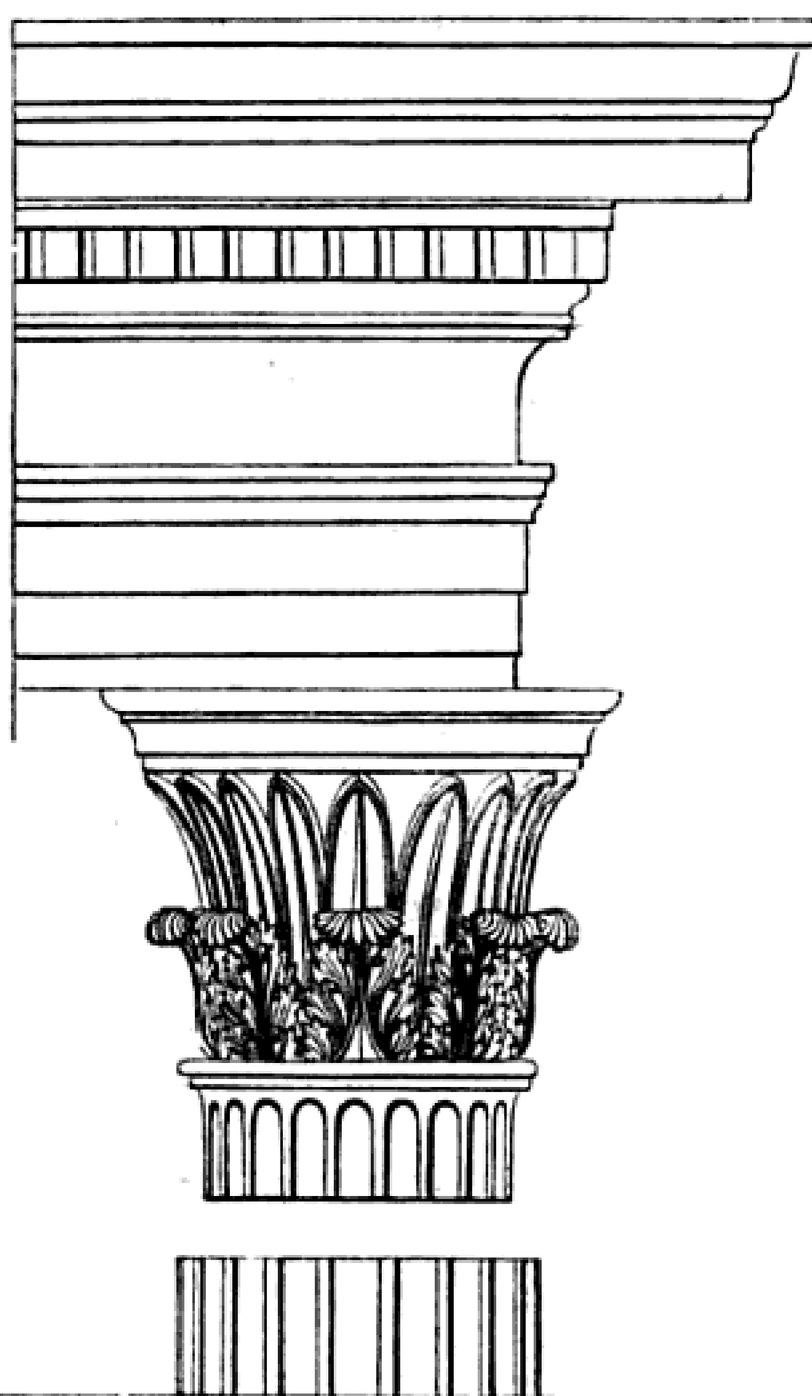
In the Ionic temples at Athens the same exquisite masonry was used as in the Doric; the same mathematical precision and care is bestowed on the entasis of the columns, the drawing of the volutes, and the execution of even the minutest details; and much of its beauty and effect are no doubt owing to this circumstance, which we miss so painfully in nearly all modern examples.

CORINTHIAN.

As before mentioned, the Corinthian order was only introduced into Greece in the decline of art, and never rose during the purely Grecian age to the dignity of a temple order. It most probably, however, was used in the more ornate specimens of domestic architecture, and in smaller works of art, long before any of those examples of it were executed which we now find in Greece.

The most typical specimen we now know is that of the Choragic Monument of Lysicrates (woodcut No. 209), which, notwithstanding all its elegance of detail and execution, can hardly be pronounced to be perfect, the Egyptian and Asiatic features being only very indifferently united to one another. The foliaged part is rich and full, but is not carried up into the upper or Ionic portion, which is in comparison lean and poor; and though separately the two parts are irreproachable, it was left to the Romans so to blend the two together as to make a perfectly satisfactory whole out of them.

In this example, as now existing, the junction of the column with the capital is left a plain sinking, and so it is generally copied in modern times; but there can be little doubt that this was originally filled by a bronze wreath, which was probably gilt. Accordingly this is so represented in the woodcut as being essential to the completion of the order. The base and shaft have, like the upper part of the capital, more Ionic feeling in them than the order was afterwards allowed to retain; and altogether it is, as here practised, far more elegant, though less complete, than the Roman form which superseded it.



210. Order of the Tower of the Winds, Athens.

The other Athenian example, that of the Tower of the Winds (woodcut No. 210), is remarkable as being almost purely Egyptian in its types, with no Ionic admixture. The columns have no bases, the capitals no volutes, and the water-leaf clings as closely to the bell as it does in the Egyptian examples. The result

altogether wants richness, and, though appropriate on so small a scale, would hardly be pleasing on a larger.

The great example of the temple of Jupiter Olympius differs in no essential part from the Roman order, except that the corners of the abacus are not cut off; and that, being executed in Athens, there is a degree of taste and art displayed in its execution which we do not find in any Roman examples. It strictly speaking, however, belongs to that school, and should be enumerated with them, and not as a Grecian example.

Caryatides.

It has been already explained that the Egyptians never used caryatide figures, properly so called, to support the entablatures of their architecture, their figures being always attached to the front of the columns or piers, which were the real bearing mass. At Persepolis, and elsewhere in the East, we find figures everywhere employed supporting the throne or the platform of the palaces of the kings; not, indeed, on their heads, as the Greeks used them, but rather in their uplifted hands.



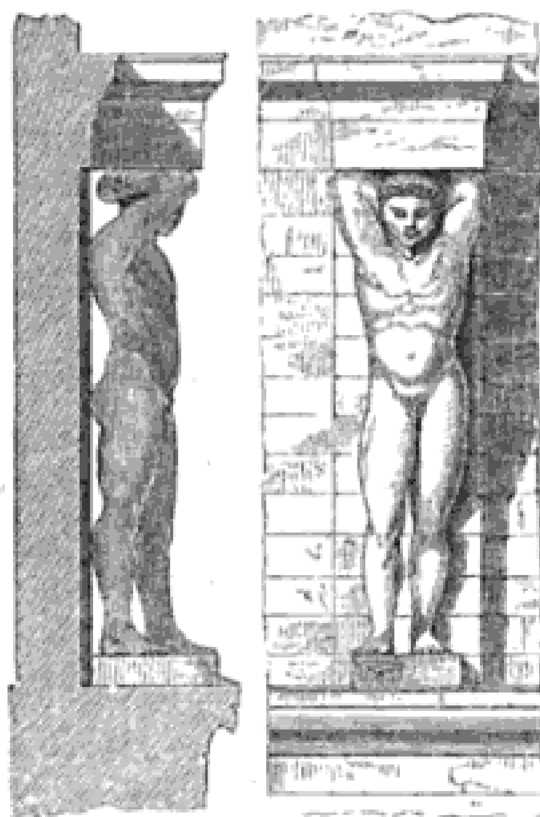
211. Caryatide Figure from the Erechtheium.



212. Caryatide Figure in the British Museum.

The name, however, as well as their being only used in conjunction with the Ionic order and with Ionic details, all point to an Asiatic origin for this very questionable form of art. As used in the little portico attached to the Erechtheium, these figures are used with so much taste, and all the ornaments are so elegant, that it is difficult to criticise or find fault; but it is nevertheless certain that it was a mistake which even the art of the Greeks could hardly conceal. To use

human figures to support a cornice is unpardonable, unless it is done as a mere secondary adjunct to a building. In the Erechtheium it is a little too prominent for this, though used with as much discretion as was perhaps possible under the circumstances. Another example of the sort is shown in woodcut No. 212, which, by employing a taller cap, avoids some of the objections to the other; but the figure itself, on the other hand, is less architectural, and so errs on the other side.



213. Telamones at Agrigentum.

Another form of this class of support is that of the giants or *Telamones*, instances of which are found supporting the roof of the great temple at Agrigentum, and in the baths of the semi-Greek city of Pompeii. As they do not actually bear the entablature, but only seem to relieve the masonry behind them, their employment is less objectionable than that of the female figure above described; but even they hardly fulfil the conditions of true art, and their place might be better filled by some more strictly architectural feature.

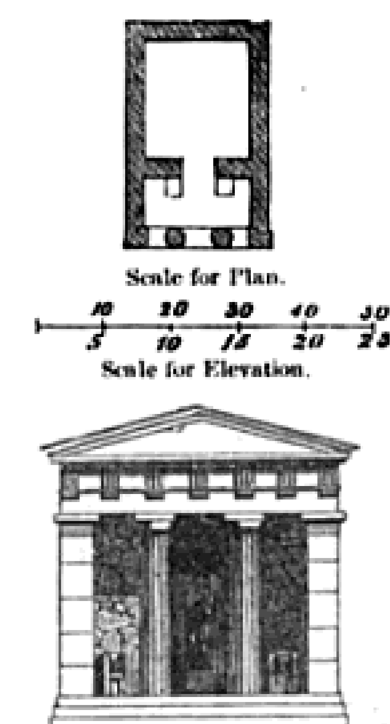
FORMS OF TEMPLES.

The arrangements of Grecian Doric temples show almost less variety than the forms of the pillars, and no materials exist for tracing their gradual development in an historical point of view. The temples at Corinth, and the oldest at Selinus, are both perfect examples of the hexastyle arrangement to which the Greeks adhered in all ages; and though there can be little doubt that the peripteral arrangement, as well as the order itself, was borrowed from Egypt, it still was so much modified before it appeared in Greece, that it would be interesting, if it could be done, to trace the steps of the change.

In an architectural point of view this is by no means difficult. The simplest Greek temples were mere cells, or small square apartments, suited to contain an image—the front being what is technically called *distyle in antis*, or with 2 pillars between *antæ*, or square pilaster-like piers terminating the side walls. Hence the interior enclosure of Grecian temples—the temple itself as opposed to the peristyle or system of external columns—is called the cell, however large and splendid it may be.

The next change was to separate the interior into a cell and porch by a wall with a large doorway in it, as in the small temple at Rhamnus (woodcut No. 214), where the opening however can scarcely be called a doorway, as it extends to the roof. A third change was to put a porch of 4 pillars in front of the last arrangement, or, as appears to have been more usual, to bring forward the screen to the position of the pillars as in the last example, and to place the 4 pillars

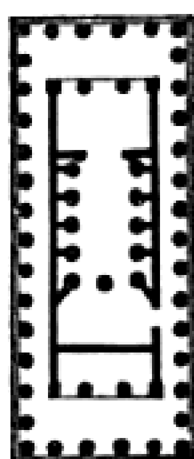
in front of this. None of these plans admitted of a peristyle, or pillars on the flanks. To obtain this it was necessary to increase the number of pillars of the portico to 6, or, as it is termed, to make it hexastyle, the 2 outer pillars being the first of a range of 13 or 15 columns, extended along each side of the temple. The cell in this arrangement was a complete temple in itself—distyle in antis, most frequently made so at both ends, and the whole enclosed in its envelope of columns, as in woodcut No. 215. Sometimes the cell was tetrastyle or with 4 pillars in front.

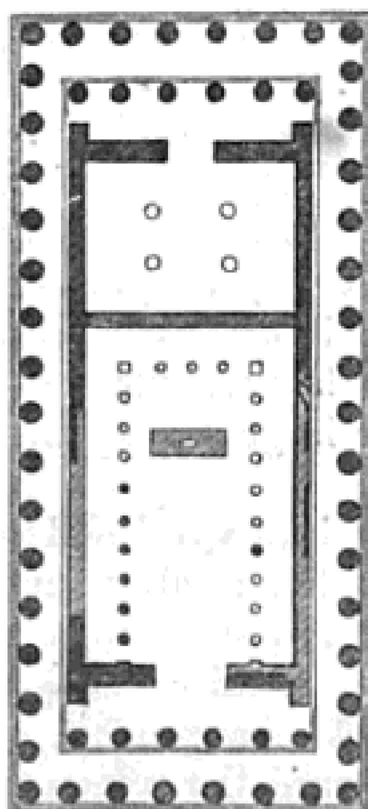


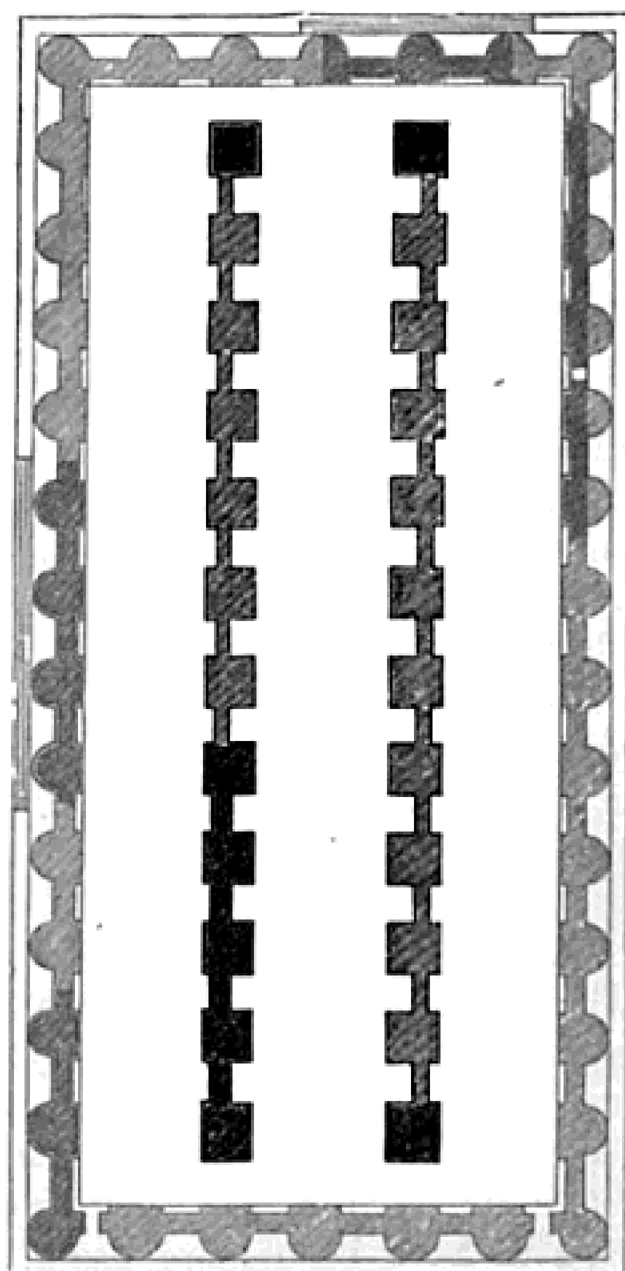
214. Small Temple at Rhamnus.

In this form the Greek temple may be said to be complete, very few exceptions occurring to the rule, though the Parthenon itself is one of these few. It has a hexastyle portico at each end of the cell; beyond this is an octastyle portico at each end, and 17 columns on each flank.

The great temple at Selinus is also octastyle, but it is neither so simple nor so beautiful in its arrangement; and, from the decline


215. Plan of Temple of Apollo at Bassæ. Scale 100 ft. to 1 in.


216. Plan of Parthenon at Athens. Scale 100 ft. to 1 in.


217. Plan of Great Temple at Agrigentum. Scale 100 ft. to 1 in.

of style in the art when it was built, is altogether a very inferior example.

Another great exception is the great temple at Agrigentum (woodcut No. 219), where the architect attempted an order on so gigantic a scale as to be unable to construct the pillars with their architraves standing free. The interstices of the columns are therefore built up with walls pierced with windows, and altogether the architecture is so bad, that even its colossal dimensions must have failed to render it at any time a pleasing or satisfactory work of art.

A fourth exception is the temple at Pæstum before referred to, with 9 pillars in front, a clumsy expedient, but which arose from its having a range of columns down the centre to support the ridge of the roof by a simpler mode than the triangular truss usually employed for carrying the ridge between two ranges of columns.

With the exception of the temple at Agrigentum, all these were peristylar, or had ranges of columns all round them, enclosing the cell as it were in a case, an arrangement so apparently devoid of purpose, that it is necessary to say a few words to account for its universality. It will not suffice to say that it was adopted merely because it was beautiful. The forms of Egyptian temples, which had no pillars externally, were as perfect, and in the hands of the Greeks would have become as beautiful, as the one they adopted. Besides, it is natural to suppose they would rather have copied the larger than the smaller temples, if no motive existed for their preference of the latter. The peristyle, too, was ill suited for an ambulatory, or place for processions to circulate round the temple; it was too narrow for this, and too high to protect the procession from the rain. Indeed, I know of no suggestion except that it was adapted to protect the paintings on the walls of the cells from the inclemency of the weather. I think it hardly admits of a doubt that the walls were painted, and that without protection of some sort this would very soon have been obliterated. It seems also very evident that the peristyle was not only practically, but artistically, most admirably adapted for this purpose. The paintings of the Greeks were, like those of the Egyptians, composed of numerous detached groups, connected only by the story, and it almost required the intervention of pillars, or some means of dividing into compartments the surface to be so painted, to separate these groups from one another, and to prevent the whole sequence from being seen at once; while, on the other hand, nothing can have been more beautiful than the white marble columns relieved against a richly coloured plane surface. The one seems so necessary to the other, that it can, I think, hardly be doubted but that this was the cause, and that the effect must have been most surpassingly beautiful.

MODE OF LIGHTING TEMPLES.

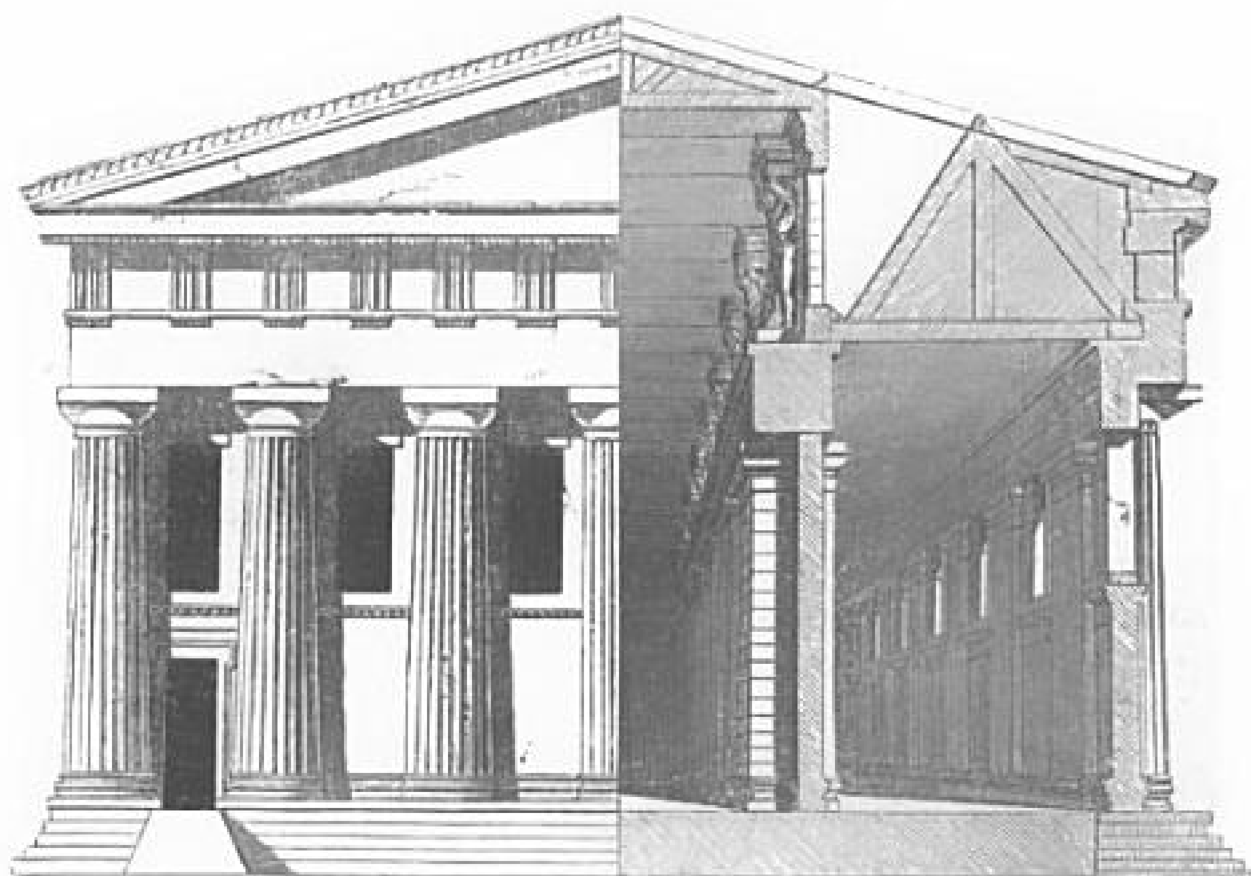
The arrangement of the interior of Grecian temples necessarily depended on the mode in which they were lighted. No one will, I believe, now contend, as was once done, that it was by lamplight alone that the beauty of their interiors could be seen; and as light certainly

was not introduced through the side walls, nor could be in sufficient quantities through the doorways, it is only from the roof that it could be admitted. At the same time it could not have been by a large horizontal opening in the roof, as has been suggested, as that would have admitted the rain and snow as well as the light; and the only alternative seems to be one I suggested some years ago—of a clerestory,[1] similar internally to that found in all the great Egyptian temples,[2] but externally requiring such a change of arrangement as was necessary to adapt it to a sloping instead of a flat roof. This seems to have been effected by countersinking it into the roof, so as to make it in fact 3 ridges in those parts where the light was admitted, though the regular slope of the roof was retained between these openings, so that neither the ridge nor the continuity of the lines of the roof was interfered with. This would effect all that was required, and in the most beautiful manner, besides that it agrees with all the remains of Greek temples that now exist, as well as with all the descriptions that have been handed down to us from antiquity.



218. Section of the Parthenon. Scale 50 ft. to 1 in.

This arrangement will be understood from the section of the Parthenon (woodcut No. 218), restored in accordance with the above explanation, which agrees perfectly with all

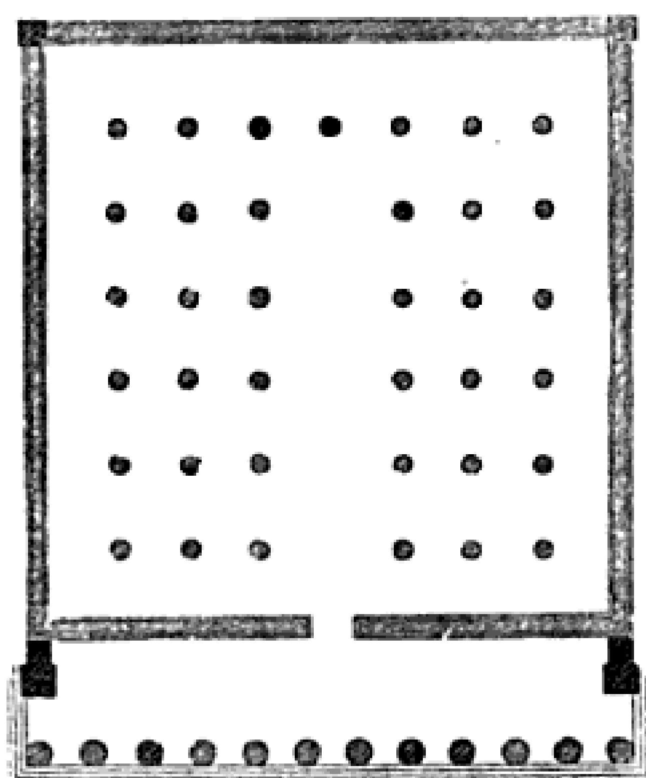


219. Part Section, part Elevation, of Great Temple at Agrigentum. Scale 50 ft. to 1 in.

[1] For full details of this see 'True Principles of Beauty in Art,' p. 385 *et seq.*
[2] See Woodcuts Nos. 168, 170, 172.

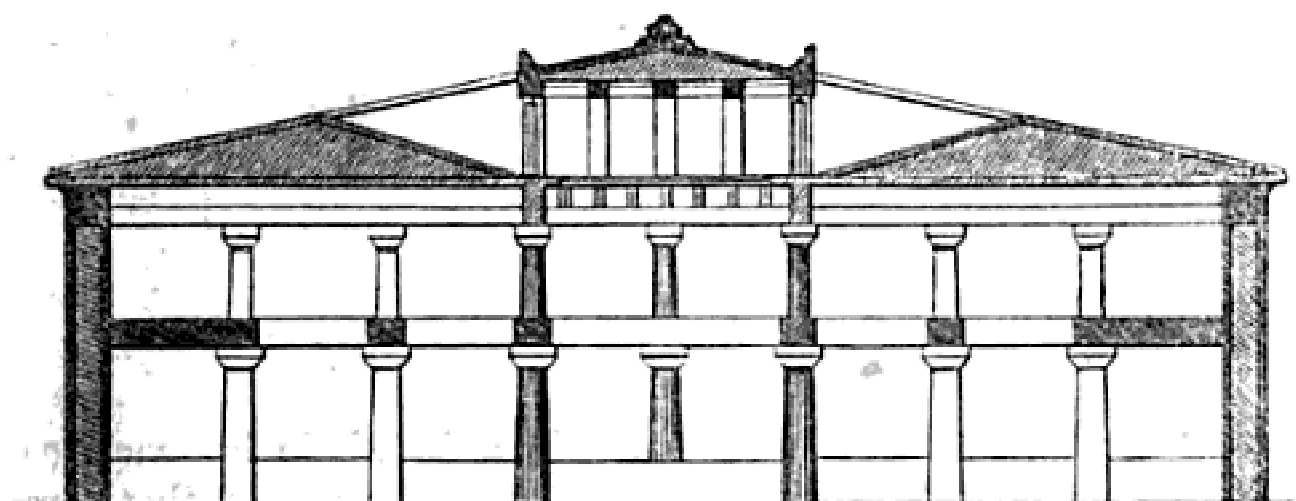
that remains on the spot, as well as with all the accounts we have of that celebrated temple. The same system applies even more easily to the great hexastyle at Pæstum, and to the beautiful little temple of Apollo at Bassæ, in Phigalia (woodcut No. 215), and indeed to all regular Greek temples; and what is a more important point in the examination of this theory, it applies equally to the exceptional ones. The side aisles, for instance, of the great temple at Agrigentum were, as before mentioned, lighted by side windows; the central one could only be lighted from the roof, and it is easy to see how this could be effected by introducing it between the telamones, as shown in the woodcut No. 219.

Another exceptional temple is that at Eleusis, which we know to have had windows and shutters above, used in admitting or excluding the light during the celebration of the mysteries. The arrangements of this temple lend themselves admirably to this mode of introducing light, as shown in the plan and section annexed (Nos. 220 and 221).



220. Plan of Temple of Ceres at Eleusis. Scale 100 ft. to 1 in.

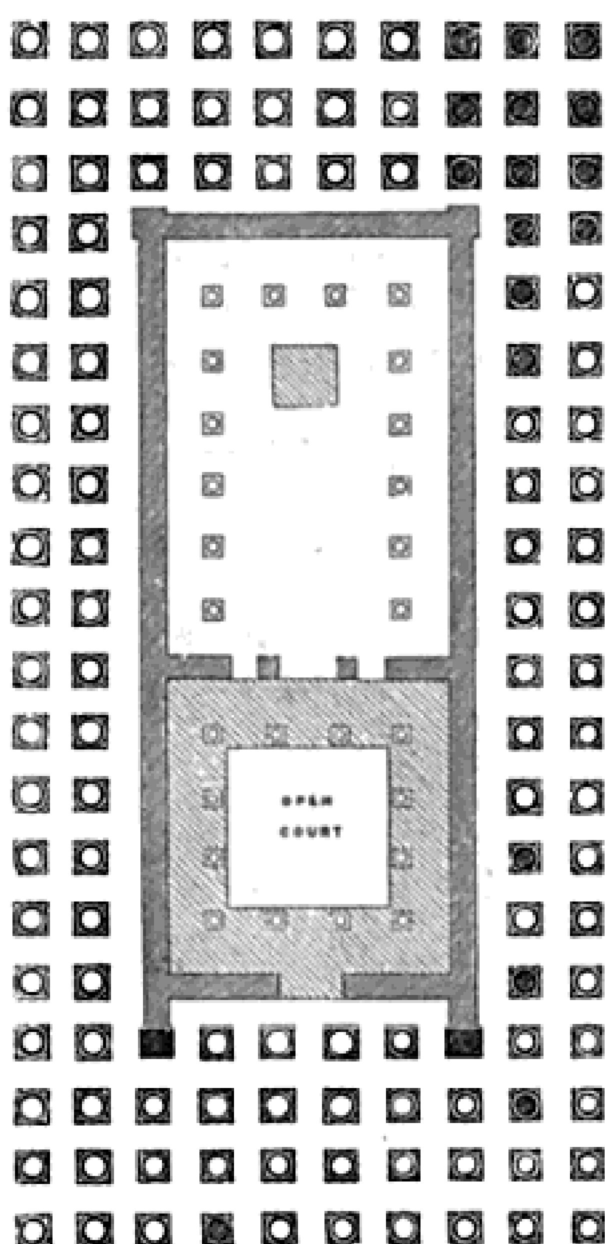
The great temple of Jupiter Olympius (woodcut No. 222) was apparently lighted according to another system, owing probably to its immense height, and other peculiarities of construction. The light seems to have been introduced into what may be considered a court, or *hypæthrum*, in front of the cell, which was lighted through its inner wall. This seems to have been the temple mentioned by Vitruvius,[1] whose description has given rise to such confusion on this subject. It is the only one to which his words apply, or to which it is possible to adapt such a mode of lighting as he describes.



221. Section of Temple of Ceres at Eleusis. Scale 50 ft. to 1 in.

[1] Vitruvius, lib. i. ch. 1.

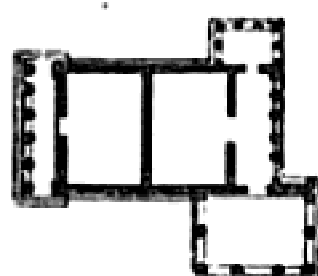
The Ionic temples of Asia are all too much ruined to enable us to say exactly in what manner, and to what extent, this mode of lighting was applied to them, though I have no doubt that the mode was very similar in all its main features.

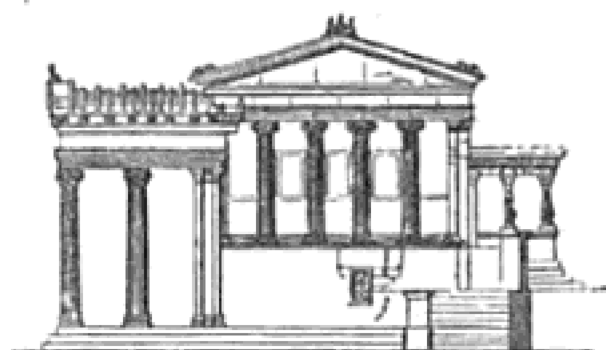


222. Plan of Temple of Jupiter Olympius at Athens. Scale 100 ft. to 1 in.

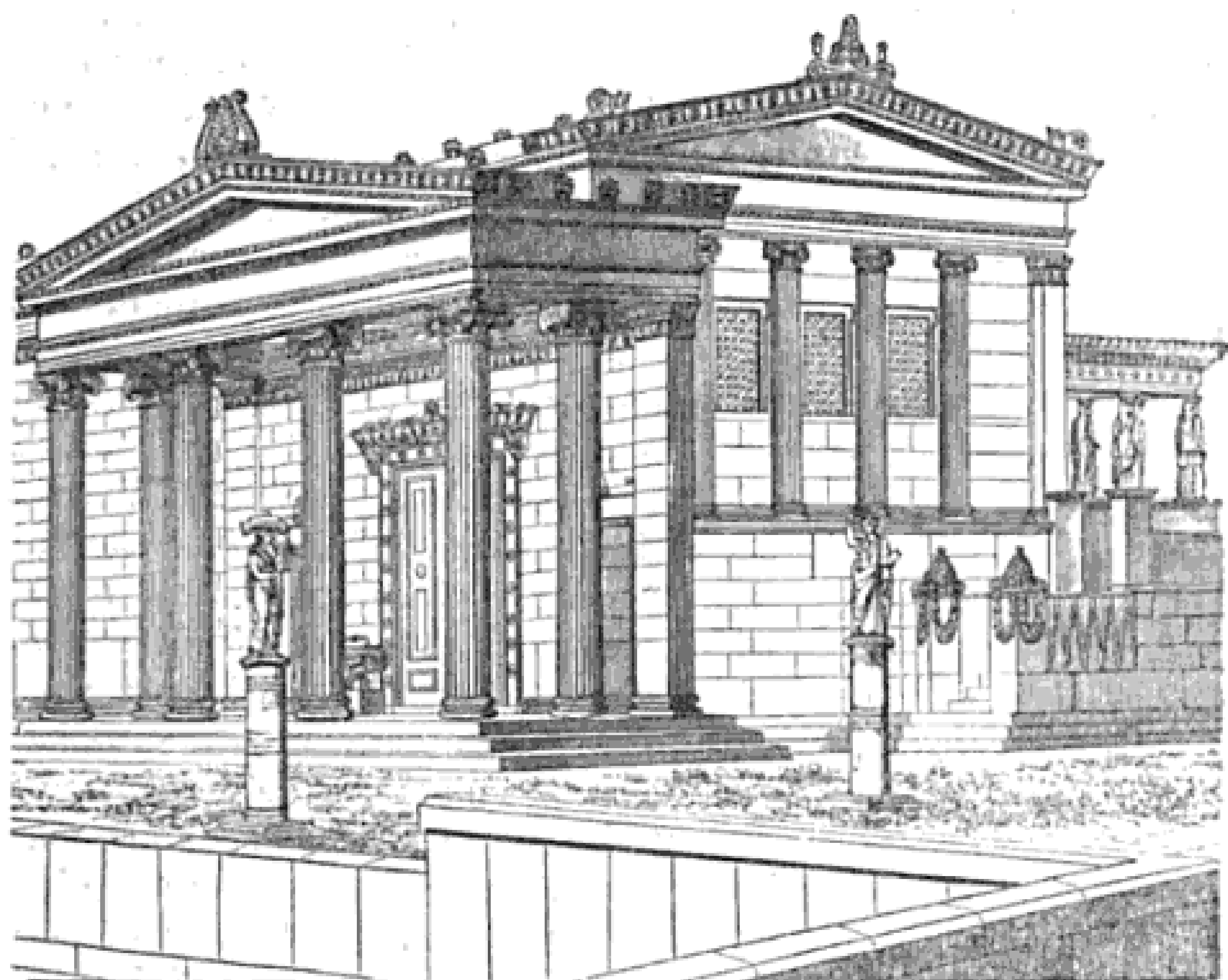
The little temple of Nikè Apteros, and the temple on the Ilissus, were both too small to require any complicated arrangement of the sort, and the Erechtheium was lighted by windows which still remain at the west end, so that we can hardly feel sure that the same expedient was not adopted to at least some extent in the Asiatic examples. The latter, however, is almost the only instance of windows in any European Greek temple, the only other example being in the very exceptional temple at Agrigentum. It is valuable, besides, as showing how little the Greeks were bound by rules, or by any fancied laws of symmetry.

As is shown in the plan, elevation, and view (woodcuts Nos. 223, 224, 225), the Erechtheium consisted, properly speaking, of 3 temples grouped together; and it is astonishing what pains the architect took to prevent their being mistaken for one. The porticos of 2 of them are on different levels, and the third or caryatide porch is of a different height and different style. Every one of these features is perfectly symmetrical in itself, and the group is beautifully balanced and arranged; and yet no Gothic architect in his wildest moments could have conceived


223. Plan of Erechtheium. Scale 100 ft. to 1 in.


224. Section of Erechtheium. Scale 50 ft. to 1 in.

anything more picturesquely irregular than the whole becomes. Indeed there can be no greater mistake than to suppose that Greek architecture was fettered by any fixed laws of formal symmetry: each detail, every feature, every object, such as a hall or temple, which could be considered as one complete and separate whole, was perfectly



225. View of Erechtheium.

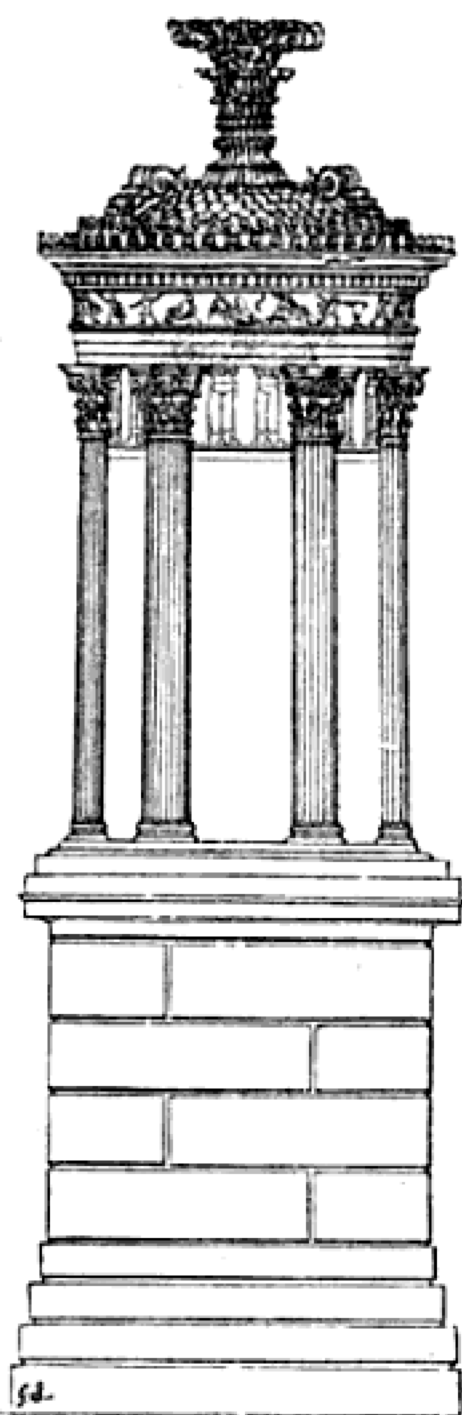
symmetrical and regular; but no two buildings—no two apartments—if for different purposes, were made to look like one. On the contrary, it is quite curious to observe what pains they took to arrange their buildings so as to produce variety and contrast, instead of formality or singleness of effect. Temples, when near one another, were never placed parallel, nor were even their propylæa and adjuncts ever so arranged as to be seen at once or in one line. The Egyptians, as before remarked, had the same feeling, but carried it into even the details of the same building, which the Greeks did not. In this, indeed, as in almost every other artistic mode of expression, they seem to have hit exactly the happy medium, so as to produce the greatest harmony with the greatest variety, and to satisfy the minutest scrutiny and the most refined taste, while their buildings produced an immediate and striking effect on even the most careless and casual beholders.

MUNICIPAL ARCHITECTURE.

Very little now remains of all the various classes of municipal and domestic buildings which once must have covered the land of Greece, and from what we know of the exquisite feeling for art that pervaded that people, were certainly not less beautiful, though more ephemeral, than the sacred buildings whose ruins still remain to us.

There are, however, two buildings in Athens which, though small, give us most exalted ideas of their taste in such matters. The first, already alluded to, usually known as the Tower of the Winds, is a plain octagonal building about 45 ft. in height by 24 in width, ornamented by 2 small porches of 2 pillars each, of the Corinthian order, whose

capitals are represented in woodcut No. 210. Its roof, like the rest of the building, is of white marble, and of simple but very elegant design, and below this is a frieze of 8 large figures, symbolical of the 8 winds, from which the tower takes its name, they in fact being the principal objects and ornaments of the building, the most important use of which appears to have been to contain a clepsydra or water-clock.



226. Choragic Monument of Lysicrates. No scale.

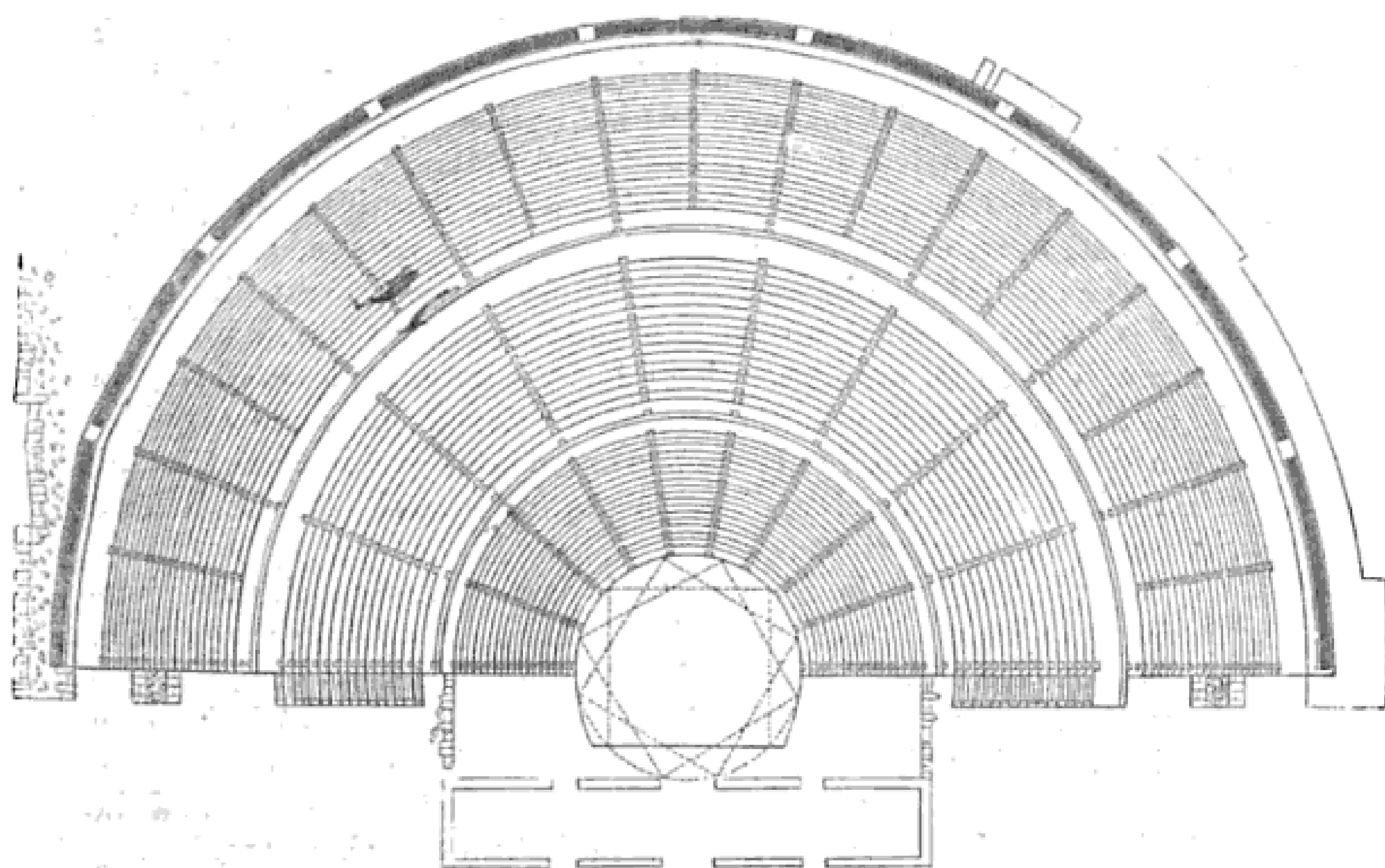
The other building, though smaller, is still more beautiful. It is known as the Choragic Monument of Lysicrates, and consists of a square base 12 ft. high by 9 ft. wide, on which stands a circular temple adorned by 6 Corinthian columns, which, with their entablature, and the roof and pedestal they support, make up 22 ft. more, so that the whole height of the monument is only 34 ft. Notwithstanding these insignificant dimensions, the beauty of its columns (woodcut No. 209) and of their entablature, above all, the beauty of the roof, and of the finial ornament designed to complete the building, which is unrivalled for elegance even in Greek art, together make up a composition so perfect that nothing in any other style or age can be said to surpass it. If it is a fair index of the art that was lavished on the smaller objects, the temples hardly give a just idea of all that have perished.

Theatres.

In extreme contrast with the buildings last described, which were among the smallest, came the theatres, which were the largest of the monuments the Greeks seem ever to have attempted.

The annexed plan of one at Dramyssus, the ancient Dodona, will give an idea of their forms and arrangements. Its dimensions may be said to be gigantic, being 443 ft. across; but even this, though perhaps the largest in Greece, is far surpassed by many in Asia Minor. What remains of it, however, is merely the auditorium, and consists only of ranges of seats arranged in a semicircle, but without architectural ornament. In all the examples in Europe, the proscenium, which was the only part architecturally ornamented, has perished, so that, till we can restore this with something like certainty, the theatres hardly come within the class of architecture as a fine art.

In Asia Minor some of the theatres have their proscenia adorned with niches and columns, and friezes of great richness, but all these



227. Plan of Theatre at Dramyssus. Scale 100 ft. to 1 in.

belong to the Roman period; and though probably copies of the mode in which the Greeks ornamented theirs, are so corrupt in style as to prevent their being used with safety in attempting to restore the earlier examples.

Many circumstances would indeed induce us to believe that the proscenia of the earlier theatres may have been of wood or bronze, or both combined, and heightened by painting and carving to a great degree of richness. This, though appropriate and consonant with the origin and history of the drama, would be fatal to the expectation of anything being found to illustrate its earliest forms.

TOMBS.

Like the other Indo-Germanic races, the Greeks never were tomb-builders, and nothing of any importance of this class is found in Greece, except the tombs of the early Pelasgic races, which were either tumuli or treasuries, as they are popularly called. There are, it is true, some headstones and small pillars of great beauty, but they are monolithic, and belong rather to the department of sculpture than of architecture. In Asia Minor there are some important tombs, some built and others cut in the rock. Some of the latter have been described before in speaking of the tombs of the Lycians. The built examples which remain almost all belong to the Roman period, though the most magnificent mausoleum of the ancient world, in the eyes of the Greeks, was that which the Queen Artemisia erected at Halicarnassus to the

memory of her husband, Mausolus, which gave its name to all subsequent examples of its class. It belonged to the great period of Greek art, and must have been a splendid building, though our possessing only verbal descriptions of it prevents our being able to judge for ourselves how far it conformed with the rules of good taste.

We have nothing left but imperfect verbal descriptions of the domestic, and even of the palatial architecture of Greece, and, consequently, can only judge imperfectly of its forms; and Pompeii, though half a Greek city, belongs to too late and too corrupt an age to enable us to use it even as an illustration; but we may rest assured that in this, as in everything else, the Greeks displayed the same exquisite taste which pervades not only their monumental architecture, but all their works in metal or clay, down to the meanest object, which have been preserved to our times.

It is probable that the forms of their houses were much more irregular and picturesque than we are in the habit of supposing they were. They seem to have taken such pains in their temples—in the Erechtheium, for instance, and at Eleusis—to make every part tell its own tale, that anything like forced regularity must have been offensive to them, and they would probably make every apartment exactly of the dimensions required, and group them so that no one should under any circumstances be confounded with another.

This, however, with all the details of their domestic arts, must now remain to us as mere speculation, and the architectural history of Greece must be confined to her temples and monumental erections. These suffice to explain the nature and forms of the art, and to assign to it the rank of the purest and most intellectual of all the styles which have yet been invented in any part of the world.

BOOK VII.

ROMAN ARCHITECTURE.

CHAPTER I.

ETRURIA.

CONTENTS.

Historical notice — Temples — Rock-cut tombs — Tombs at Castel d'Asso — Tumuli.

CHRONOLOGICAL MEMORANDA.

Migration from Asia Minor	about 12th cent. B.C.
Tomb of Porsenna.	about B.C. 500
Etruria becomes subject to Rome	„ 300

OUR subject again carries us back to a very early period—that of the first introduction of art into Italy, for the traces of which it is necessary to direct our attention to Etruria. In describing the remains found in this country we shall come to nothing very remarkable for its bearing upon merely architectural questions. The study of the monuments of Etruria derives the greater part of its interest from its historical importance. In this point of view there are perhaps few parts of the world whose remains of art are more instructive than those of Etruria. Without the lessons which we learn from them, the architectural history of Rome is an unintelligible maze; and the connection between the arts of Greece and Italy, from the earliest time, equally inexplicable.

Without attempting to enter into the many controversies that have of late years been raised with regard to the origin and early history of the Etruscans,[1] it will be necessary to state thus much:—They were an Asiatic people who 12 or 13 centuries before the Christian era emigrated from Lydia, driven from their home either by the pressure of a long famine or by the rising power of some neighbouring nation, most probably that of the Assyrians. Landed in Italy, they dispossessed of some of their cities the Umbrians, a people of similar origin to themselves, and settled themselves between the valleys of

[1] These questions are discussed at considerable length in the 'True Principles of Beauty in Art,' p. 426 *et seqq.*

the Tiber and the Arno. In this fertile district they founded 12 cities, and established a federal union of 12 states, which is the peculiar institution of the race.

Here they appear to have flourished for 7 or 8 centuries, receiving the expatriated Trojans and other similar accessions from their native shores, and keeping up a constant communication of commerce and art with the cognate Pelasgic races of Greece and other parts.

When Rome was first founded, her kings, laws, and institutions were Etruscan, and consequently of Asiatic origin, though the mass of the inhabitants were probably of the old Italian stock. About 5 centuries before Christ the Romans threw off the Etruscan yoke, and established the peculiar municipal institutions of the Indo-Germanic races. Eventually, after a contest of 2 centuries' duration, they conquered in succession the several states of the then old and decrepit Union, and based their colossal empire on the ruins of the parent nation of Etruria.

Until the very latest time, however, Rome retained, both in her institutions and her arts, many peculiarities derived from her original rulers; and it is only by studying what remains of the older race that we can understand either the origin or meaning of those peculiar features.

The origin of Etruscan art is beyond all doubt Asiatic, and its original seat was some part of the countries between the Tigris and the western coast of Asia Minor. The same art, and from the same source, prevailed in Greece under the Pelasgi. In that country, as has been already explained, it ceased to exist as a separate style of art in very early times. It was there amalgamated with Egyptian and Assyrian forms under the Dorians during the 4 or 5 centuries that elapsed between the extinction of the pure Pelasgic style and the rise of true Hellenic art. The united style thus slowly ripened into that noble and chastened art which we have described in the last chapter.

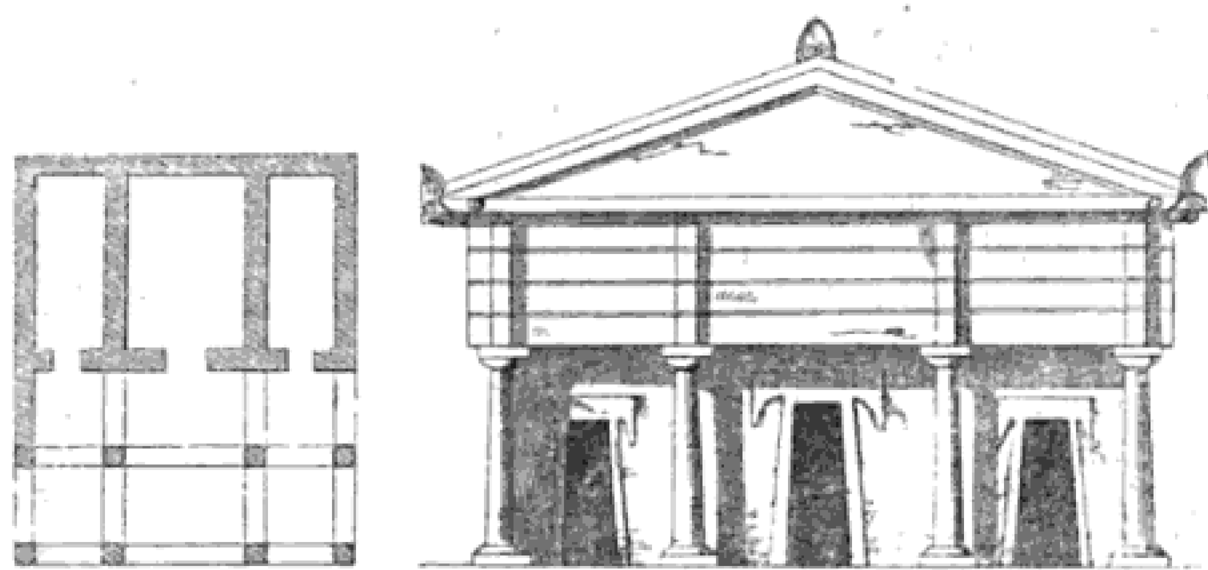
In Etruria the old Asiatic style enjoyed no such advantages. It there was left without a rival or associate, to luxuriate in its own natural wildness; but it remained an exotic unsuited to the climate. It never blended itself with the art of the people among whom it was planted. Perhaps there was nothing with which it could blend itself. It thus bore no such fruit as in Greece, and could not maintain itself after the people which had introduced it had succumbed beneath the superior energy of their Italian conquerors.

Temples.

As might be expected of a people of Asiatic origin, the Etruscans had no temples worthy of the name. At least no remains of any are now to be found, and those we read of were small, though probably highly ornamented, wooden fabrics, which of course perished early. On the other hand, the Etruscans were an essentially tomb-building race. Their religion took very much the character of ancestral worship, and it was this particular feature of it which left so strong an impress on the mythology of Greece and Rome. It was not an idolatry,

nor had it a distinct and privileged priesthood; consequently it was devoid of all tendency to the feelings which find their utterance in architectural splendour.

We know from Vitruvius that there were two classes of temples in Etruria: the first circular, like their tombs, and dedicated to one god or demigod; the other rectangular, with 3 cells sacred to 3 deities. The appearance and arrangement of the rectangular temples is scarcely more than a mere antiquarian question. The restoration of the elevation from the description in Vitruvius is by no means easy or certain. My own belief is that it resembled that given in the annexed woodcut (No. 228), but it is not worth while here to enter into all the reasons



228. Plan and Section of an Etruscan Temple.

for this impression, which I have given elsewhere.[1] In fact, these temples, as architectural objects, are so insignificant as hardly to deserve much consideration. The restored ground-plan explains their general arrangements, as commonly admitted by those who have studied the subject.

The original Etruscan circular temple I believe to have been a mere circular cell with a porch. The Romans surrounded it with a peristyle, which probably did not exist in the original style. They magnified it afterwards into the most characteristic and splendid of all their temples, the Pantheon, whose portico is Etruscan in arrangement and design, and whose cell still more distinctly belongs to that style. The temple of Capitoline Jupiter was in all respects an Etruscan building; and most of the other temples of the Romans, though affecting a peristylar form, returned to the arrangements which had been adopted in the first instance from their neighbours and original rulers. There can be little doubt that the simpler Roman temples of circular form are derived from Etruscan originals. It would therefore be of great importance if we were able to illustrate the later buildings from existing remains of the older; but the fact is that such deductions as we may draw from the copies are our only source of information respecting the originals.

We know little of any of the civil buildings with which the cities

[1] True Principles of Beauty in Art, p. 446 *et seqq.*

of Etruria were adorned, except the remains of their theatres and amphitheatres. The form of the latter was essentially Etruscan, and was adopted by the Romans, with whom it became their most characteristic and grandest architectural object. Of the amphitheatres of ancient Etruria only one now remains in so perfect a state as to enable us to judge of their forms. It is that at Sutri, which, however, being entirely cut in the rock, neither affords the means of judging of the mode of construction, nor enables us to determine the age. The general dimensions are 295 ft. in its greatest length, by 265 in breadth, and consequently much nearer a circle than those of the Romans usually were; but in other respects the arrangements are such as were usually found in after times.

Besides these we have numerous works of utility, but these belong more strictly to engineering than to architectural science. The city walls of the Etruscans surpass those of any other ancient nation in extent and beauty of workmanship. Their works of drainage and their bridges, as well as those of the kindred Pelasgians in Greece, still remain monuments of their industrial science and skill, which their successors never surpassed.

On the whole perhaps we are justified in asserting that the Etruscans were not an architectural people, and had no temples or palaces worthy of attention. At all events it is certain that nothing of the sort is now to be found even in ruins, and, were it not that the study of Etruscan art is a necessary introduction to that of Rome, it would hardly be worth while to try to gather together and to illustrate the few fragments and notices of it that remain.

Tombs.

The tombs now found of the Etruscans may be divided into two classes:—First, those cut in the rock, and resembling dwelling-houses; secondly, the circular tumuli, which latter are by far the most numerous and important class.

Each of these may be again subdivided into two kinds. The rock-cut tombs include, firstly, those with only a façade on the face of the rock, and a sepulchral chamber within; secondly, those cut quite out of the rock, and standing free all round. To this class probably once belonged an immense number of tombs built in the ordinary way; but all these have totally disappeared, and consequently the class, as now under consideration, consists entirely of excavated examples.

The second class may be divided into those tumuli erected over chambers cut in the tufaceous rock which is found all over Etruria, and those which have chambers built above ground.

In the present state of our knowledge it is impossible to say which of these classes is the older. We know that the Egyptians buried in caves long before the Etruscans landed in Italy, and at the same time raised pyramids over rock-cut and built chambers. We know too that Abraham was buried in the cave of Machpelah in Syria. On the other hand, the tombs at Smyrna (woodcut No. 148), the treasuries of Mycenæ, the sepulchre of Alyattes, and many others, are proofs of the antiquity

of the tumuli, which moreover are found all over Europe and Asia, and appear to have existed from the earliest ages.

The comparative antiquity of the different kinds of tombs being thus doubtful, it will be sufficient for the purposes of the present work to classify them architecturally. It may be assumed, I believe, with safety, that all the modes which have been enumerated were practised by the Etruscans at a period very slightly subsequent to their migration into Italy.

Of the first class of the rock-cut tombs—those with merely a façade externally—the most remarkable group is that at Castel d'Asso. At this place there is a perpendicular cliff with hundreds of these tombs ranged along its face, like houses in a street. A similar arrangement is found in Egypt at Beni Hassan, and at Petra, and around all the more ancient cities of Asia Minor.

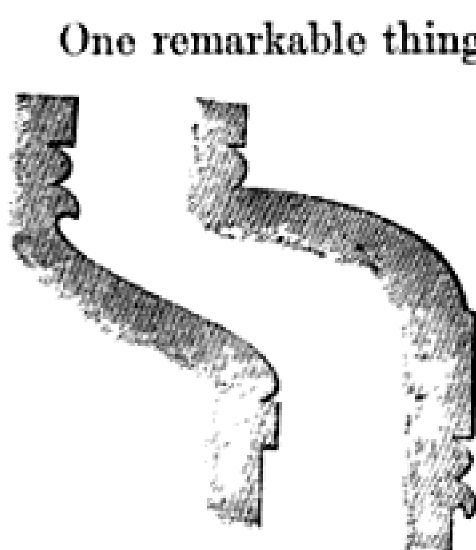
In Etruria they generally consist of one chamber lighted by the doorway only. Their internal arrangement appears to be an imitation of a dwelling chamber, with furniture, like the apartment itself, cut out of the rock. Externally they have little or no pretension to architectural decoration. It is true that, executed at a much later period, and under Roman domination, some tombs are found adorned with frontispieces of a debased Doric or Ionic order; but such cannot be taken as specimens of Etruscan art, but rather of that corruption of style sure to arise from a conquered people trying to imitate the arts of their rulers.

The general appearance of the second class of rock-cut tombs will be understood from the woodcut No. 229, representing two monuments at Castel d'Asso. Unfortunately neither is complete, nor is there any complete example known to exist of this class. Perhaps the apex was added structurally; and these, like all such things in Etruria, have perished. Perhaps, if cut in the rock, the terminals were slender carved ornaments, and consequently liable to injury. They are usually restored by antiquaries in the shape of rectilinear pyramids, but there is no authority for this as far as I know. On the contrary, it is more in accordance with what we know of the style and its affinities to suppose that the termination of these monuments, even if added in masonry, was curvilinear.



229. Tombs at Castel d'Asso. From the Annale del Instituto.

One remarkable thing about the rock-cut tombs is the form of their mouldings, which differ from any found elsewhere in Europe. Two of these are shown in the annexed woodcut (No. 230). They are very numerous and in great variety, but do not in any instance show the slightest trace of a cornice, nor of any tendency thereto. In place of this, on the contrary, we find only a reverse moulding altogether. It is probable that similar forms will be found in Asia Minor, and something resembling them occurs at Persepolis and elsewhere. It is remarkable that this feature did not penetrate to Rome, and that no trace of its influence is found there, as might be expected.[1]



230. Mouldings from Tombs at Castel d'Asso.

Tumuli.

The simplest and therefore perhaps the earliest monument which can be erected, by a people who reverence their departed relatives, over the graves of the dead, is a mound of earth or a cairn of stones, and such seems to have been the form among the Tartar races of mankind from the earliest days to the present hour.[2] It is scarcely necessary to remark how universal such monuments were among the ruder tribes of Northern Europe. The Etruscans seem to have improved upon this by surrounding the base with a *podium*, or supporting wall of masonry. This not only defined its limits and gave it dignity, but enabled entrances to be made in it, and otherwise converted it from a mere hillock into a monumental structure. It is usually supposed that this basement was an invariable part of all Etruscan tumuli, and when it is not found it is assumed that it has been removed, or that it is buried in the rubbish of the mound. No doubt such a stone basement may easily have been removed by the peasantry, or buried, but it is by no means clear that this was invariably the case. It seems that the enclosure was frequently a circle of stones or monumental steles, in the centre of which the tumulus stood. The monuments have hitherto been so carelessly examined and restored, that it is difficult to arrive at anything like certainty with regard to the details of their structure. Nor can we draw any certain conclusion from a comparison with other tumuli of cognate races. The description by Herodotus of the tomb of Alyattes at Sardis, that by Pausanias of those of Epytus in Arcadia, and the appearances of those at Mycenæ and Orchomenus, might be interpreted either way; but those at Smyrna, and a great number at least of those in Etruria, have the circle of stones as a supporting base to the mound.

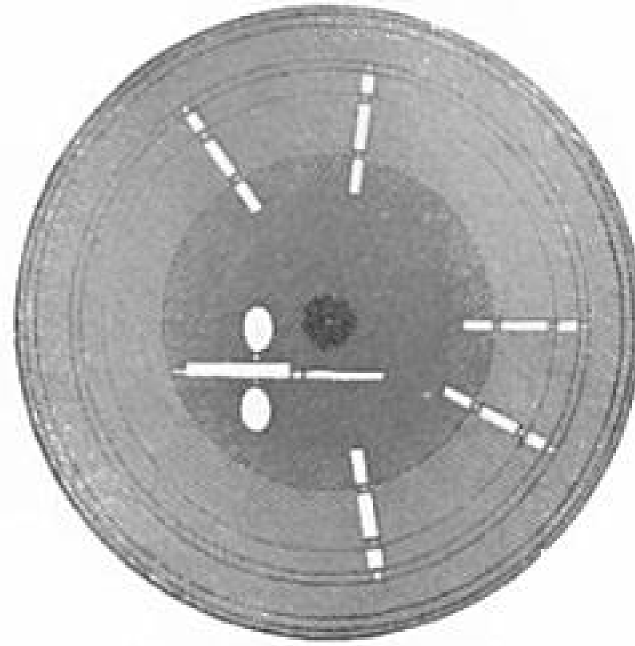
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[1] Even in more modern times I know of no building showing a trace of these forms except the tomb of Theodoric at Ravenna. This, however, is Etruscan both in form and detail, as will be seen farther on.

[2] See woodcut No. 90, which might almost be taken for a representation of an Etruscan tomb.

These tumuli are found existing in immense numbers in every necropolis of Etruria. A large space is generally set apart for the purpose outside the walls of all the great cities. In these cemeteries the tumuli are arranged in rows, like houses in streets. Even now we can count them by hundreds, and in the neighbourhood of the largest cities—at Vulci, for instance—almost by thousands.

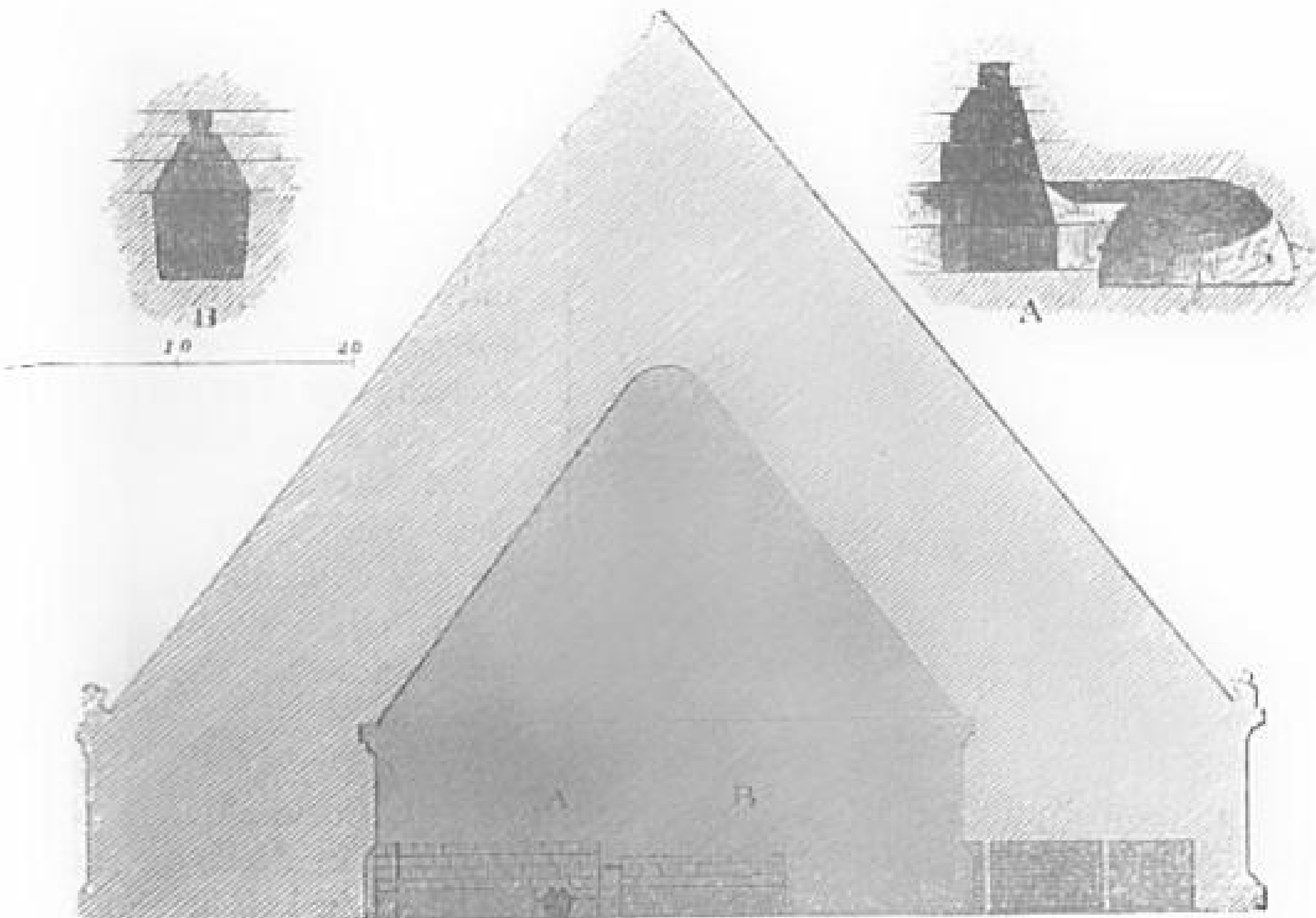
Most of them are now worn down by the effect of time to nearly the level of the ground, though some of the larger ones still retain an imposing appearance. Nearly all have been rifled at some early period, though the treasures still discovered almost daily in some places show how vast their extent was, and how much even now remains to be done before this vast mine of antiquity can be said to be exhausted.



231. Plan of Regulini Galeassi Tomb. Scale 100 ft. to 1 in.

One of the most remarkable among those that have been opened in modern times is at Cervetere, the ancient Cære, known as the Regulini Galeassi tomb, from the names of its discoverers.

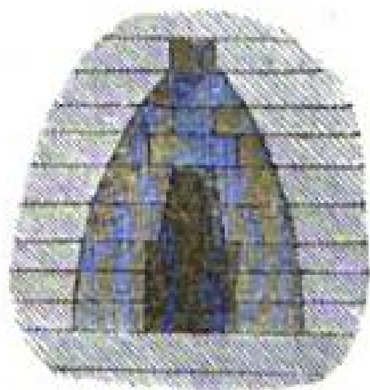
Like a Nubian pyramid or Buddhist tope, it consists of an inner and older tumulus, around and over which another has been added. In the outer mound are 5 tombs either of dependent or inferior personages. These were rifled long ago ; but the outer pyramid having effectually



232. Sections of Regulini Galeassi Tomb. From Canina's Etruria Antica. Scale for large section, 50 ft. to 1 in.

concealed the entrance to the principal tomb, it remained untouched till very lately, when it yielded to its discoverers a richer collection of ornaments and utensils in gold and bronze than have ever been found in one place before.

The dimensions and arrangements of this tumulus will be understood from woodcuts Nos. 231 and 232, and from the two sections of the principal tomb which are annexed to them. These last display an irregularity of construction very unusual in such cases, for which no cause can be assigned. The usual section is perfectly regular, as in the annexed woodcut (No. 233), taken from another tomb at the same place.


233. Section of a Tomb at Cære. No Scale.

These chambers, like all those of the early Etruscans, are vaulted on the horizontal principle, like the tombs at Mycenæ and Orchomenus. None found in Italy are at all equal to those of Greece in dimensions or beauty of construction.

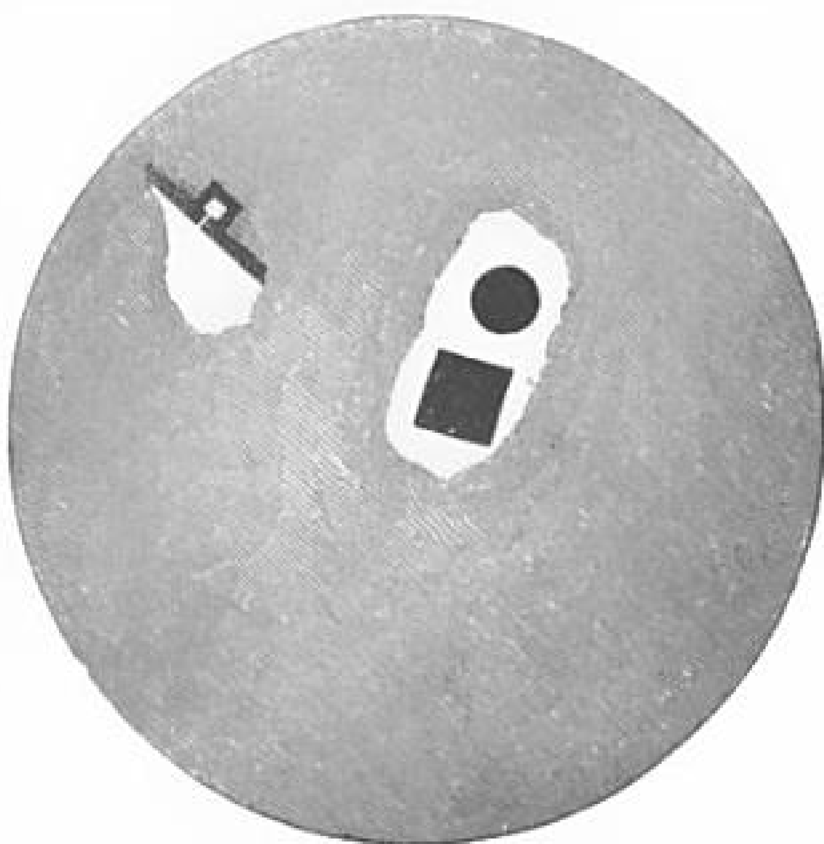
Woodcut No. 234 is a perspective view of the principal chamber in the Regulini Galeassi tomb, showing the position of the furniture found in it when first opened, consisting of biers or bedsteads, shields, arrows, and vessels of various sorts. A number of vases are hung in a curious recess in the roof, the form of which would be inexplicable but for the utensils found in it. With this clue to its meaning we can scarcely doubt that it represents a place for hanging such vessels in the houses of the living.


234. View of principal Chamber in Regulini Galeassi Tomb.

All the treasures found in this tomb are in the oldest style of Etruscan art, and are so similar to the bronzes and ornaments brought by Layard from Assyria as to lead to the belief that they had a common origin. The tomb, with its contents, probably dates from the 9th or 10th century before the Christian era.

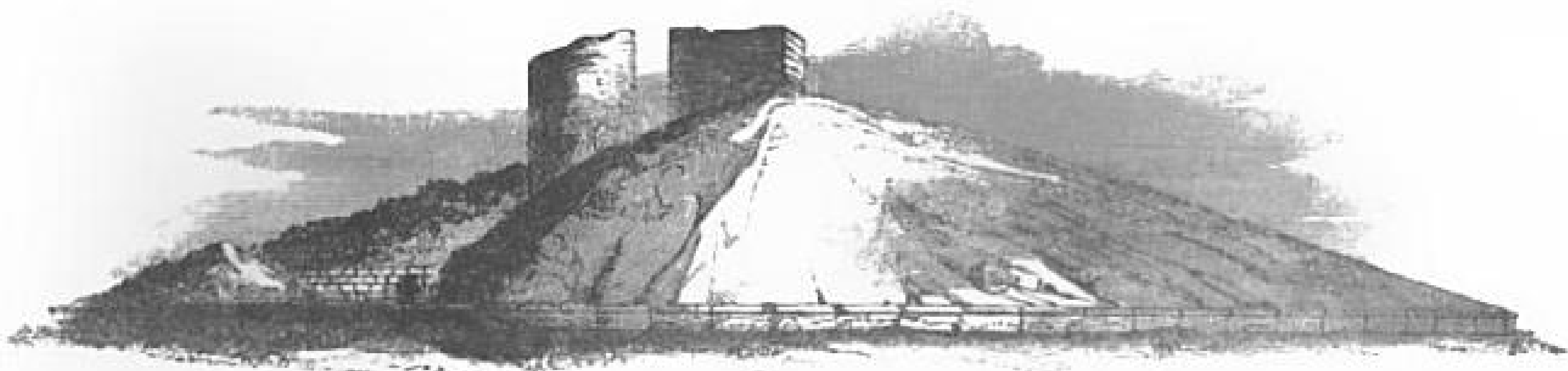
The largest tomb hitherto discovered in Etruria is now known as the Cocumella, in the necropolis at Vulci. It is rather more than 240 ft. in diameter, and originally could not have been less than 115 or 120 ft. in height, though now it only rises to 50 ft.

Near its centre are the remains of two solid towers, one circular, the other square, neither of them actually central, nor are they placed in such a way that we can understand how they can have formed a part of any symmetrical design. A plan and a view of the present appearance of this monument are given in the woodcuts, Nos. 235 and 236.



235. Plan of Cocumella, Vulci. Scale 100 ft. to 1 in.

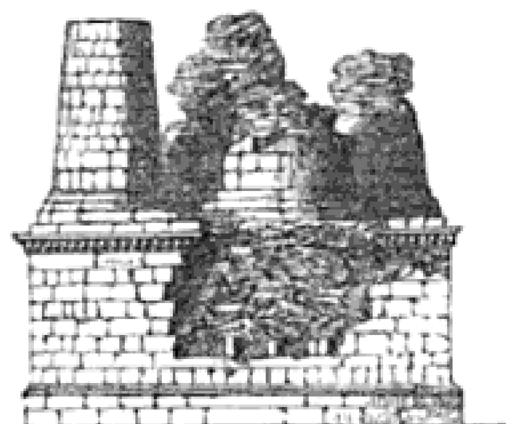
This tumulus, with its principal remaining features thus standing on one side of the centre, may possibly assist us to understand the curious description found in Pliny[1] of the tomb of Porsenna. This description is quoted from Varro, being evidently regarded by Pliny himself as not a little apocryphal. According to this account it consisted of a square basement 300 ft. each way, from which arose 5 pyramids, united at the summit by a bronze circle or cupola. This was again surmounted by 4 other pyramids, the summits of which were again united at a height of 300 ft. from the ground. From this point rose still 5 more pyramids, whose height Varro (from modesty, as Pliny surmises) omits to state, but which was estimated in Etruscan traditions at the same height as the rest of the monument. This last statement, which does not rest on any real authority, may well be regarded as exaggerated; but if we take the total height as about 400 ft., it is easy to understand that in the age of Pliny, when all the buildings were low, such a structure, as high as the steeple at Salisbury, would appear fabulous; but the vast piles that have been erected by tomb-building races in other parts of the earth render it by no means improbable that Varro was justified in what he asserted.

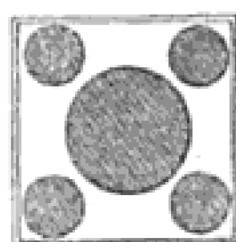


236. View of Cocumella, Vulci.

[1] Plin. Hist., xxxvi. 13.

Near the gate of Albano is found a small tomb of 5 pyramidal pillars rising from a square base, exactly corresponding with Varro's description of the lower part of the tomb of Porsenna. It is called by tradition the tomb of Aruns, the son of Porsenna, though the character of the mouldings with which it is adorned would lead us to assign to it a more modern date. It consists of a lofty podium, on which are placed 5 pyramids, a large one in the centre and 4 smaller ones at the angles. Its present appearance is shown in the annexed woodcut (No. 237).

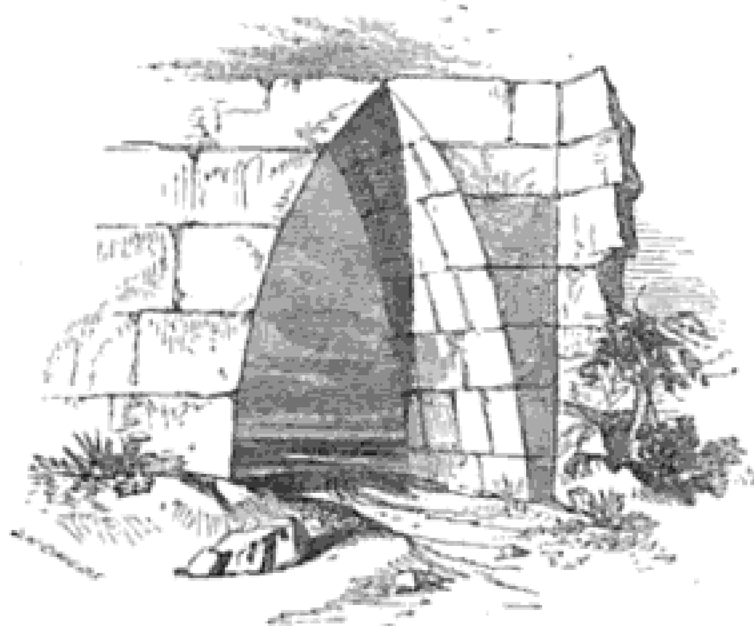

Scale 50 ft. to 1 in.


Scale 100 ft. to 1 in.

237. Tomb of Aruns, Albano.

There are not in Etruria any features sufficiently marked to characterise a style of architecture, nor any pillars with their accessories which can be considered to constitute an order. It is true that in some of the rock-cut tombs square piers support the roof; and in one or two instances rounded pillars are found, but these are either without mouldings or ornamented only with Roman details, betraying the lateness of their execution. The absence of built examples of the class of tombs found in the rock prevents us from recognising any of those peculiarities of construction which sometimes are as characteristic of the style and as worthy of attention as the more purely ornamental parts.

From their city gates, their aqueducts and bridges, we know that the Etruscans used the radiating arch, with deep voussoirs and elegant mouldings, at an early age, giving it that character of strength which the Romans afterwards imparted to their works of the same class. The Cloaca Maxima of Rome (woodcut No. 192) must be considered as a work executed under Etruscan superintendence, and a very perfect specimen of the class.


238. Gateway at Arpino.

At the same time the Etruscans used the pointed arch, constructed horizontally, and seem to have had the same predilection for it which characterised the cognate Pelasgian race in Greece. A gateway at Arpino (woodcut No. 238) is almost identical with that at Thoricus, but larger and more elegant; and there are many specimens of the same class found in Italy. The portion of an aqueduct at Tusculum, shown in woodcut No. 239, is a curious transition specimen,

where the two stones meeting at the apex (usually called the Egyptian form, being the first step towards the true arch) are combined with a substructure of horizontal converging masonry.



239. Aqueduct at Tusculum.

In either of these instances the horizontal arch is a legitimate mode of construction, and may have been used long after the principle of the radiating arch was known. The great convenience of the latter, as enabling large spaces to be spanned even with brick or the smallest stones, and thus dispensing with the necessity for stones of very large dimensions, led ultimately to its universal adoption. Subsequently, when the pointed form of the radiating arch was introduced, no motive remained for the retention of the horizontal method, and it was entirely abandoned.

CHAPTER II.

ROME.

INTRODUCTION.

We now approach the last revolution that completed and closed the great cycle of the arts and civilization of the ancient world. We have seen Art spring Minerva-like perfect from the head of her great parent, in Egypt. We have admired it in Assyria, rich, varied, but unstable; aiming at everything, but never attaining maturity or perfection. We have tried to trace the threads of early Pelasgic art in Asia, Greece, and Etruria, spreading its influence over the world, and laying the foundation of other arts which the Pelasgi were incapable of developing. We have seen all these elements gathered together in Greece, the essence extracted from each, and the whole combined into the most perfect and beautiful combinations of intellectual power that the world has yet witnessed. We have now only to contemplate the last act in the great drama, the gorgeous but melancholy catastrophe by which all these styles of architecture were collected in wild confusion in Rome, and perished beneath the luxury and crimes of that mighty people.

View them as we will, the arts of Rome were never an indigenous or natural production of the soil or people, but an aggregation of foreign styles in a state of transition from the old and time-honoured forms of Pagan antiquity to the new development of Christian arts. We cannot of course suppose that the Romans foresaw the result to which their amalgamation of previous styles was tending, still they advanced as steadily towards that result as if a prophetic spirit had guided them to a well-defined conception of what was to be. It was not however permitted to the Romans to complete this task. Long before the ancient methods and ideas had been completely moulded into the new, the power of Rome sank beneath her corruption, and a long pause took place, during which the Christian arts did not advance beyond the point they had reached in the age of Constantine. Indeed in many respects they receded from it during the dark ages. When they reappeared in the 10th and 11th centuries it was in an entirely new garb, and with scarcely a trace of their origin—so distinct indeed that it appears more like a reinvention than a reproduction of forms long since familiar to the Roman world. Thus had Rome retained her power and pre-eminence a century or two longer, a style might have been elaborated as distinct from that of the ancient world, and as complete in itself, as our pointed Gothic, and perhaps more beautiful. Such was

not the destiny of the world; and what we have now to do is to examine this style of transition as we find it in ancient Rome, and familiarise ourselves with the forms it took during the three centuries of its existence, as without this knowledge all the arts of the Gothic era would for ever remain an inexplicable mystery. The chief value of the Roman style consists in the fact that it contains the germs of all that is found in the middle ages, and affords the key by which its mysteries may be unlocked, and its treasures rendered available. Had the transition been carried through in the hands of an art-loving and artistic people, the architectural beauties of Rome must have surpassed those of any other city in the world, for their buildings surpass in scale those of Egypt, and in variety those of Greece, while they pretend to combine the beauties of both. In constructive ingenuity they far surpass anything the world had seen up to their time, but this cannot redeem their offences against good taste, nor enable any of their productions to command our admiration as works of art, nor entitle them to rank as models to be followed either literally or in spirit.

During the first two centuries and a half of her existence, Rome was virtually an Etruscan city, wholly under Etruscan influence; and during that period we read of temples and palaces being built, and of works of immense magnitude being undertaken for the embellishment of the city; and we have even now more remains of kingly than we have of consular Rome.

After expelling her kings, and shaking off Etruscan influence, she existed as a republic for 500 years, and during this long age of barbarism she did nothing to advance science. Literature was almost wholly unknown within her walls, and not one monument has come down to our time, even by tradition, worthy of a city of a tenth part of her power and magnitude. There is probably no instance in the history of the world of a capital city existing so long, populous and peaceful at home, prosperous and powerful abroad, which at the same time was so utterly devoid of any monuments or any magnificence to dignify her existence.

When, however, Carthage was conquered and destroyed, when Greece was overrun and plundered, and Egypt, with her long-treasured art, had become a dependent province, Rome was no longer the city of the Romans, but the sole capital of the civilised world. Into her lap were poured all the artistic riches of the world; to Rome flocked all who sought a higher distinction or a more extended field than their own provincial capitals could then afford. She thus became the centre of all the arts and all the science then known; and so far at least as quantity is concerned, she amply redeemed her previous neglect. It seems an almost indisputable fact, that during the three centuries of the Empire more and larger buildings were erected in Rome and her dependent cities than ever were erected in a like period in any part of the world.

For centuries before the establishment of the Roman Empire, progressive development and increasing population, joined to comparative peace and security, had accumulated around the shores of the Mediter-

ranean a mass of people enjoying material prosperity greater than had ever been known before. All this culminated in the first centuries of the Christian era. The greatness of the ancient world was then full, and a more overwhelming and gorgeous spectacle than the Roman empire then displayed never dazzled the eyes of mankind. From the banks of the Euphrates to those of the Tagus, every city vied with its neighbour in the erection of temples, baths, theatres, and edifices for public use or private luxury. In all cases these display far more evidence of wealth and power than of taste and refinement, and all exhibit traces of that haste to enjoy, which seems incompatible with the correct elaboration of anything that is to be truly great. Notwithstanding all this, there is a greatness in the mass, a grandeur in the conception, and a certain expression of power in all these Roman remains which never fail to strike the beholder with awe, and force him to admire in spite of his better judgment. These qualities, coupled with the associations that attach themselves to every brick and every stone, render the study of them irresistibly attractive. It was with imperial Rome that the ancient world perished; it was in her dominions that the new and Christian world was born. All that was great in Heathendom was gathered within her walls, tied, it is true, into an inextricable knot, which was cut by the sword of the barbarians, who moulded for themselves out of the fragments that polity and those arts which will next occupy our attention. To Rome all previous history tends; from Rome all modern history springs: to her therefore, and to her arts, we inevitably turn, if not to admire, at least to learn, and, if not to imitate, at least to wonder, to contemplate a phase of art as unknown to previous as to subsequent history, and, if properly understood, more replete with instruction than any other form hitherto known. Though the lesson we learn from it is far oftener what to avoid than what to follow, still there is such wisdom to be gathered from it as should guide us in the onward path, and might lead us to a far higher grade than it was given to Rome herself ever to attain.

CHAPTER III.

ROMAN ARCHITECTURE.

CONTENTS.

Origin of style — The arch — Orders: Doric, Ionic, Corinthian, Composite — Temples — The Pantheon — Roman temples at Athens — at Baalbec.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
Foundation of Rome	B.C. 753	Destruction of Pompeii	A.D. 79
Tarquinius Priscus—Cloaca Maxima, foundation of Temple of Jupiter Capitolinus	616	Trajan—Ulpian Basilica and Pillar of Victory	98
Temple of Jupiter Capitolinus dedicated	507	Hadrian builds temple at Rome, Temple of Jupiter Olympius at Athens, &c.	117
Scipio—tomb at Literium	184	Septimius Severus—arch at Rome	194
Augustus—temples at Rome	31	Caracalla—baths	211
Marcellus—theatre at Rome—died	23	Diocletian—palace at Spalatro	284
Agrippa—portico of Pantheon—died	13	Maxentius—Basilica at Rome	306
Nero—burning and rebuilding of Rome—died	A.D. 68	Constantine—transfer of Empire to Constantinople	328
Vespasian—Flavian Amphitheatre built	70		
Titus—arch in Forum	79		

The earliest inhabitants of Rome were an Indo-Germanic race who established themselves in a country previously occupied by Pelasgians. Their principal neighbour on one side was Etruria, a Pelasgian nation. On the other hand was Magna Græcia, which had been colonised in very early ages by Hellenic or Indo-Germanic settlers. It was therefore impossible that the architecture of the Romans should not be in fact a mixture of that of these two people. As a style of transition, it was only a mechanical juxtaposition of the two styles. The real fusion took place many long centuries afterwards. Throughout the Roman period they remain distinct, and there is no great difficulty in referring almost every feature to its origin.

From the Greeks they borrowed the rectangular peristylar temple, with its columns and horizontal architraves, though they seldom if ever used it in its perfect purity, the cella of the Greek temples not being sufficient for their purposes. The principal Etruscan temples, as we have already shown, were square in plan, and the inner half occupied by one or more cells, to the sides and back of which the portico never extended. The Roman rectangular temple is a mixture of these two: it is generally, like the Greek examples, longer than its breadth, but the colonnade never, I believe, entirely surrounds the building. Sometimes it extends to the two sides as well as the front, but more generally the cella occupies the whole of the inner part, though frequently

ornamented by a false peristyle of three-quarter columns attached to its walls.

Besides this the Romans borrowed from the Etruscans a circular form of temple unknown to the Greeks, but which to their tomb-building predecessors must have been not only a familiar but a favourite form. As used by the Romans it was generally encircled by a peristyle of columns, though it is not clear that the Etruscans so used it. Perhaps this is an improvement adopted from the Greeks on an Etruscan form. In early times these circular temples were dedicated to Vesta, Cybele, or some god or goddess either unknown or not generally worshipped by the Indo-Germanic races; but in latter times this distinction was lost sight of.

A more important characteristic which the Romans borrowed from the Etruscans was the circular arch. It was known, it is true, to the Egyptians, Assyrians, and Greeks; yet none of those people, perhaps excepting the Assyrians, seem to have used it as a feature in their ornamental architecture; but the Etruscans seem to have had a peculiar predilection for it, and from them the Romans adopted it boldly, and introduced it into almost all their buildings. It was not at first used in temples of Grecian form, nor even in their peristylar circular ones. In the civil buildings of the Romans it was a universal feature, but generally placed in juxtaposition with the Grecian orders. In the Colosseum, for instance, the whole construction is arched; but a useless network of ill-designed and ill-arranged Grecian columns, with their entablatures, is spread over the whole. This is a curious instance of the mixture of the two styles, and as such is very characteristic of Roman art; but in an artistic point of view the place of these columns would have been far better supplied by buttresses or panels, or some more correctly constructive expedient.

After having thoroughly familiarised themselves with the forms of the arch as an architectural feature, the Romans made a bold stride in advance by applying it as a vault both to the circular and rectangular forms of buildings. The most perfect examples of this are the Basilica of Maxentius, commonly called the Temple of Peace, and the Rotunda of the Pantheon, both, probably, of nearly the same age. In these buildings the Roman architects so completely emancipated themselves from the trammels of former styles as to entitle them almost to claim the invention of a new style of architecture. It would have required some more practice to invent details appropriate to the purpose; still these two buildings are to this hour unsurpassed for boldness of conception and just appreciation of the mode in which the new invention ought to be applied. This is almost universally acknowledged as far as the interior of the Pantheon is concerned. In simple grandeur it is as yet unequalled; its faults are those of detail only. It is not so easy to judge of the Temple of Peace, from its ruined state; but in so far as we can judge from what remains, in boldness and majesty it must have been quite equal to the other example, though it must have required more familiarity with the style to manage so complicated a form as appropriately as the simpler dome of the Pantheon.

These two buildings may be considered as marking the progress the Romans were able to make in the invention of a new style of architecture, and the state in which they left it to their successors. It is worth remarking how, in transplanting Roman architecture to the new capital, the semi-Oriental nation seized on their own circular form, and, modifying and moulding it to their purpose, wrought out the Byzantine style. There the dome is the great feature, almost wholly to the exclusion of the rectangular form with its intersecting vaults. On the other hand, the rectangular form was appropriated by the Teutonic nations of the West with as distinct a rejection of the circular and domical forms, except in so far as an Eastern people still were mixed up with them. Thus in Italy both continued long to be used, the one as a baptistery, the other as a church, but always distinct as in Rome. In France they were so completely fused into one that it requires considerable knowledge of architectural analysis to separate them again into their component parts. In England we rejected the circular form altogether, and so they did in Germany, except when under French influence. Each race reclaimed its own among the spoils of Rome, and used it with the improvements it had acquired during its employment in the imperial city.

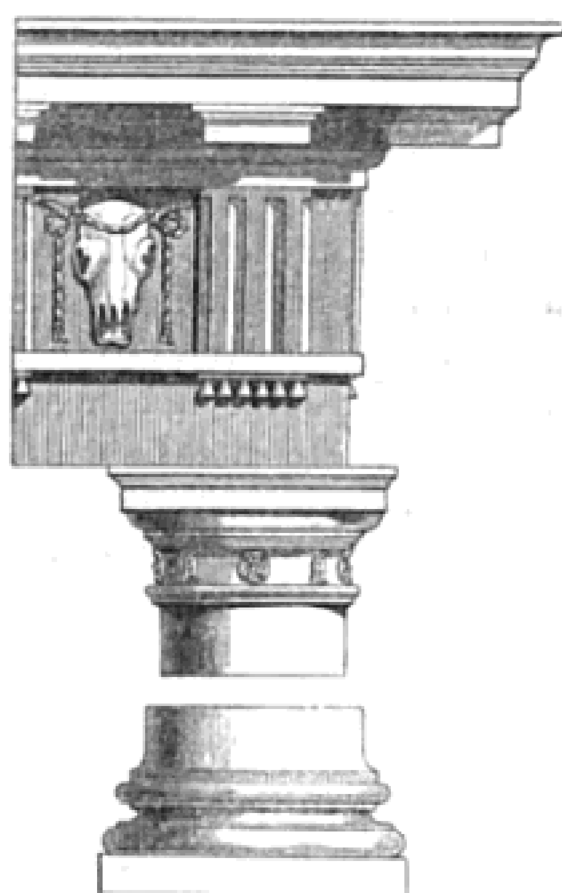
ORDERS.

The first thing that strikes the student in attempting to classify the objects of Roman architecture is the immense variety of their application, as compared with other styles. In Egypt there are only palaces and tombs. In Greece architecture was almost wholly confined to temples and theatres; in Etruria to tombs. In Rome we have temples, basilicas, theatres and amphitheatres, baths, palaces, tombs, arches of triumph and pillars of victory, gates, bridges, and aqueducts, all equally objects of architectural skill. The best of these, in fact, are those which other countries neglected. They would have been noble works indeed had it not been that the Romans sought to apply to them the orders and details which were meant only for the temples in other nations. In the time of Constantine these orders were nearly dying out, or were at least reduced to mere subordinate ornaments. The next step would have been their entire abolition, when the Roman would have been a new and complete style; but, as before remarked, this last step was denied them, and the orders therefore are still an essential part of Roman art. These are most important in the age of Augustus, and gradually die out as we approach that of Constantine.

THE DORIC.

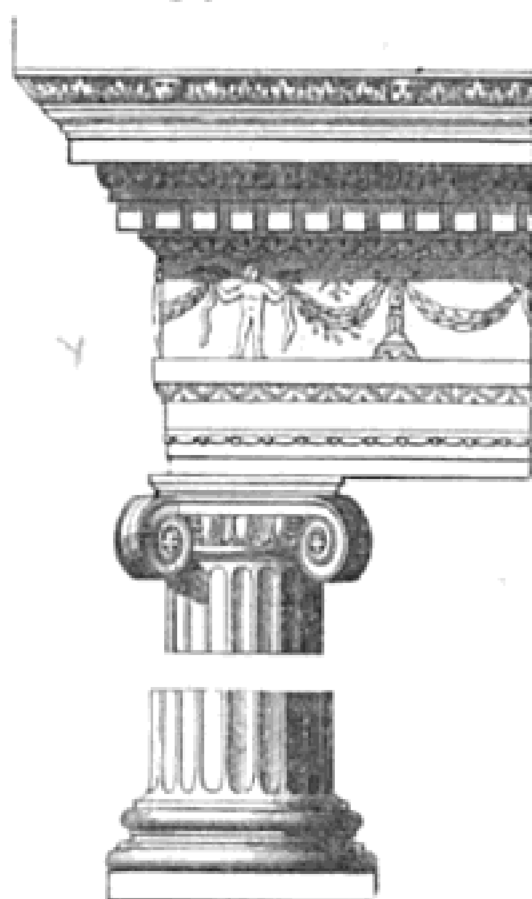
Adopting the usual classification, the first of the Roman orders is the Doric, which, like everything else in this style, takes a place about half-way between the Tuscan wooden posts and the nobly simple order of the Greeks. It no doubt was a great improvement on the former, but for monumental purposes infinitely inferior to the latter. It was, however, more manageable; and for forums or court-yards, or

as a three-quarter column between arcades, it was better adapted to their purposes than the severer Greek, which, when so employed, not only loses almost all its beauty, but becomes more unmeaning than the Roman. This was apparently felt; for there is not, so far as I know, a single Doric temple throughout the Roman world; and it would in consequence be most unfair to institute a comparison between a mere utilitarian prop and an order which the most refined artists in the world spent all their ingenuity in rendering the most perfect of architectural objects.



240. Doric Order.

The addition of an independent base made the order much more generally useful, and its adoption brought it much more into harmony with the other two orders, which seems to have been the principal object of its introduction. The key-note of Roman architecture was the Corinthian order; and as, from the necessities of their tall many-storied buildings, they were forced to use the three orders together, often one over the other, it was indispensable that the three should be reduced to something like harmony. This was accordingly done, but at the expense of the Roman Doric order, which, except when thus used in combination, must be confessed to have very little claim to our admiration.



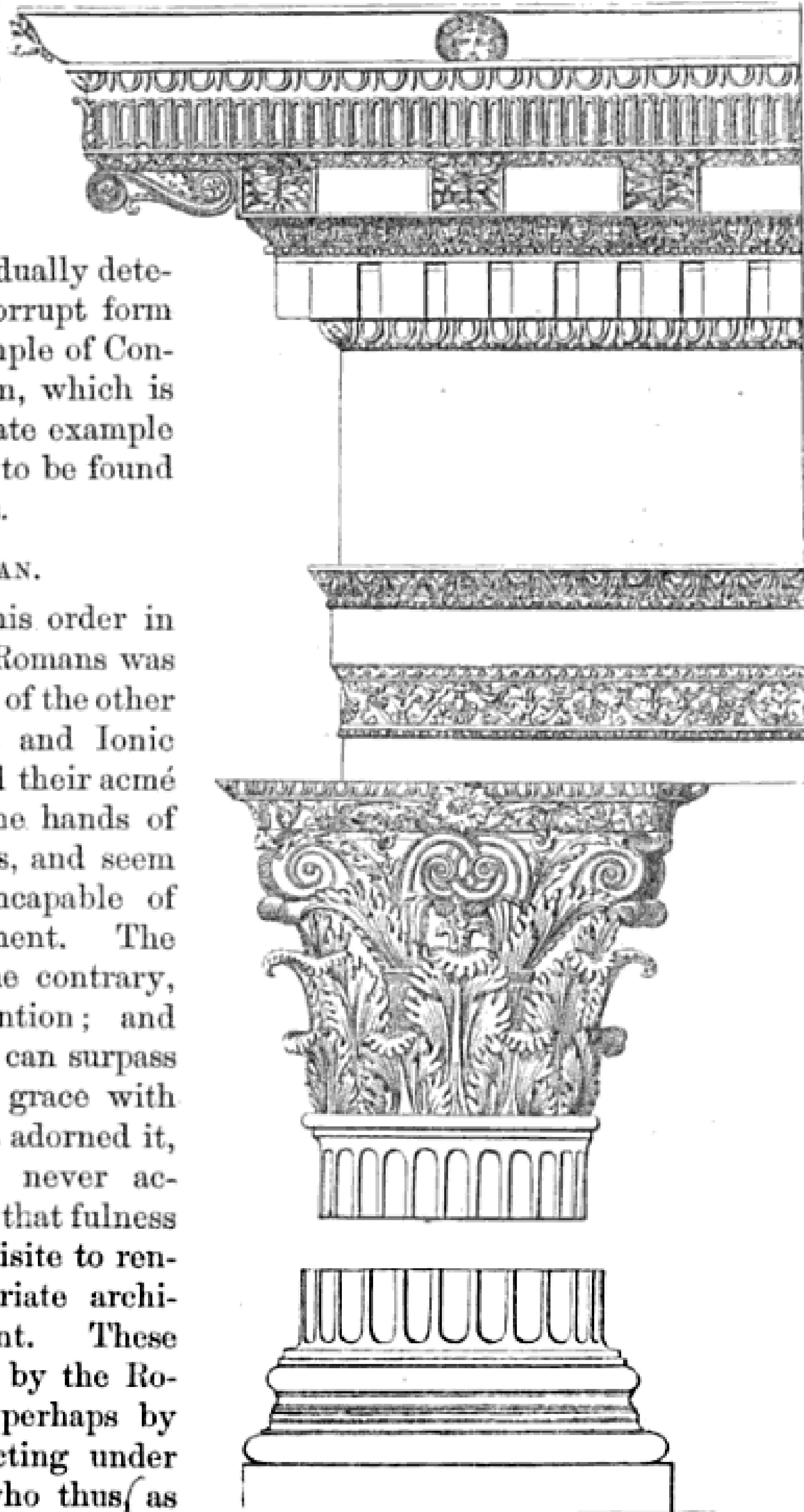
241. Ionic Order.

Ionic.

The Romans were much more unfortunate in their modifications of the Ionic order than in those which they introduced into the Doric. They never seem to have either liked or understood it, nor to have employed it except as a *mezzo termine* between the other two. In its own native East this order had originally only been used in porticos between piers or *antæ*, where of course only one face was shown, and there were no angles to be turned. When the Greeks adopted it they used it in temples of Doric form, and in consequence were obliged to introduce a capital at each angle, with two voluted faces in juxtaposition at right angles to one another. When the Romans took it up, impatient of control, they turned all the volutes angularly, making them mere horns, and destroying all the

meaning and all the grace of the order. This was not effected at once, but was the result of a great many attempts to get over the difficulties inherent in the employment of this order.

When used as a three-quarter column these alterations were not required, and then the order looked more like what it originally was; but even in this state it was never equal to the Greek examples, and gradually deteriorated to the corrupt form as seen in the Temple of Concord in the Forum, which is the most degenerate example of the order now to be found in Roman remains.



242. Corinthian Order. From the Temple of Jupiter Stator.

CORINTHIAN.

The fate of this order in the hands of the Romans was different from that of the other two. The Doric and Ionic orders had reached their acmé of perfection in the hands of the Grecian artists, and seem to have been incapable of further improvement. The Corinthian, on the contrary, was a recent invention; and although nothing can surpass the elegance and grace with which the Greeks adorned it, this new capital never acquired with them that fulness and strength requisite to render it an appropriate architectural ornament. These were added to it by the Romans, or rather perhaps by Grecian artists acting under their direction, who thus (as shown in the woodcut No. 242,) produced a column which for richness combined with proportion and architectural fitness has hardly been surpassed. The base is elegant and appropriate; the shaft is of the most pleasing proportion, and the fluting gives it just the requisite degree of richness and no more; and the capital, though bordering on

over-ornamentation, is so well arranged as to appear just suited to the work it has to do. The acanthus-leaves, it is true, go to the very verge of that degree of direct imitation of nature which is allowable in architectural ornaments; but they are disposed so formally, and there still remains so much that is conventional in them, that, though an extreme example, they are not perhaps justly open to criticism on this account.

The entablature is not so admirable as the column. The architrave is too richly carved. It is evident, however, that this arose from the artist having copied in carving what the Greeks had only painted, and thus produced a complexity far from pleasing.

The frieze, as we now find it, is perfectly plain; but this undoubtedly was not the case when originally erected. It either must have been painted (in which case the whole order of course was also painted), or ornamented with scrolls or figures in bronze, which may probably have been gilt.

The cornice is perhaps open to the same criticism as the architrave, of being over rich, though this evidently arose from the same cause, of repeating in carving what ought only to be painted; and to our northern eyes at least it looks more appropriate for internal than for external architecture, but, under the purer skies where it was invented and used, this remark is perhaps hardly applicable.

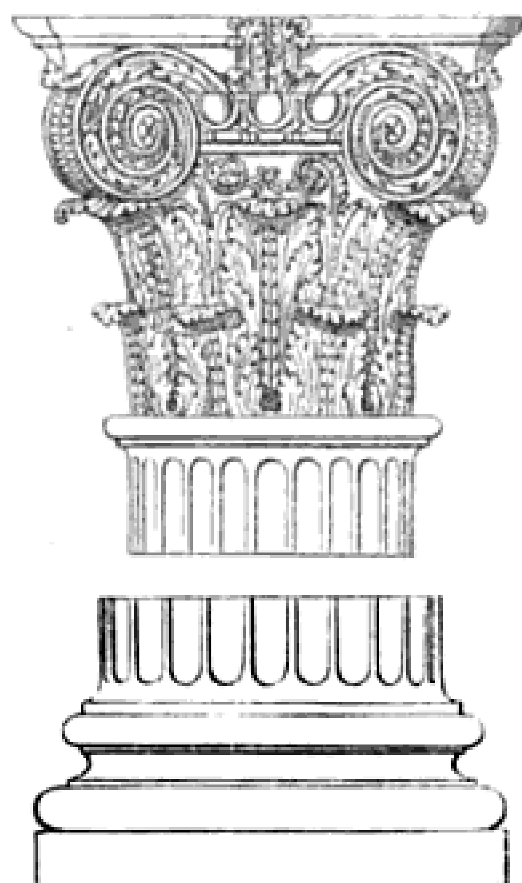
The order of the portico of the Pantheon is, according to our notions, a nobler specimen of what an external pillar should be than that of the Temple of Jupiter Stator. The shafts are of one block, unfluted; the capital plainer; and the whole entablature, though as correctly proportional, is far less ornamented, so as to suit the greater simplicity of the whole.

The order of the Temple of Antoninus and Faustina is another example intermediate between these two. The columns are in this instance very similar to those of the Pantheon, and the architrave is plain. The frieze, however, is ornamented with more taste than any other in Rome, and is a very pleasing example of those conventional representations of plants and animals which are so well suited to architectural purposes—more like nature than those of the Greeks, but still avoiding direct imitation sufficiently to prevent the affectation of the ornament pretending to appear what it is not and cannot be.

The Maison Quarrée at Nismes presents an example of a frieze ornamented with exquisite taste, while at Baalbec, and in some other examples, we have friezes so over-ornamented that the effect is far more offensive, from utter want of repose, than even the baldness of the frieze of the Temple of Jupiter Stator in its present state is, from the opposite extreme.

Besides these there are at least 50 varieties of Corinthian capitals to be found either in Rome or in various parts of the Roman Empire, all executed within the three centuries during which Rome continued to be the Imperial city. Some of these are remarkable for an elegant simplicity, evidently betraying the hand of a Grecian artist, but some of them show a lavish exuberance of ornament, too characteristic of Roman art in general. Many of them contain, however, the germs of

something better than was accomplished in that age; and a collection of them would afford more useful suggestions for designing capitals than have yet been available to modern artists.


243. Composite Order.

Composite Order.

Among their various attempts to improve the order which has just been described, the Romans hit upon one which is extremely characteristic of their whole style of art. This is known by the distinguishing name of the Composite order, though virtually it is more like the typical examples of the Corinthian order than many of those classed under the latter denomination.

The greatest defect of the Corinthian capital is the weakness of the small volutes supporting the angles of the abacus. A true artist would have remedied this by adding to their strength, and carrying up the fulness of the capital to the top. The Romans removed the whole of the upper part, and substituted an Ionic capital instead. Their only original idea, if it may be so called, in art, was that of the putting two dissimilar things together to make one which should combine the beauties of both, though in fact the one only serves to destroy the other. In the Composite capital they never could hide the junction; and consequently, though rich and in some respects an improvement on the order out of which it grew, this capital never came into general use, and has seldom found favour except amongst the blindest admirers of all that the Romans did.

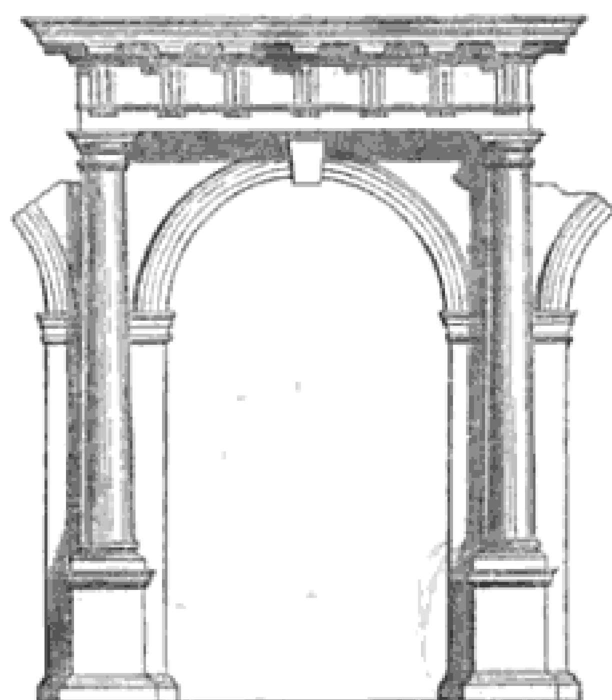

244. Corinthian Base, now found in Church of St. Praxede in Rome.

In the latter days of the Empire the Romans attempted another innovation which promised far better success, and with very little more elaboration would have been a great gain to the principles of architectural design. This was

the introduction of the Persian or Assyrian base, modified to suit the details of the Corinthian or Composite orders. If they had always used this instead of the square pedestals on which they mounted their columns, and had attenuated the pillars slightly when used with arcades, they would have avoided many of the errors they fell into. The invention, however, came too late to be generally used; and the forms already introduced continued to prevail. At the same time it is evident that a Persepolitan base for an Ionic and even for a Corinthian column would be among the greatest improvements that could be introduced, especially for internal architecture.

Composite Arcades.

The true Roman order, however, was not any of these columnar ordinances we have been enumerating, but an arrangement of 2 pillars placed at a distance from one another nearly equal to their own height, and having a very long entablature, which in consequence required to be supported in the centre by an arch springing from piers. This, as will be seen from the annexed woodcut, was in fact merely a screen of Grecian architecture placed in front of a construction of Etruscan design. Though not without a certain richness of effect, still, as used by the Romans, these two systems remain too distinctly dissimilar for the result to be pleasing, and their use necessitated certain supplemental arrangements by no means agreeable. In the first place, the columns had to be mounted on pedestals, or otherwise an entablature proportional to their size would have been too heavy and too important for a thing so useless and so avowedly a mere ornament. A projecting key-stone was also introduced into the arch. This was unobjectionable in itself, but, when projecting so far as to do the duty of an intermediate capital, it overpowered the arch without being equal to the work required of it.



2.5. Doric Arcade.

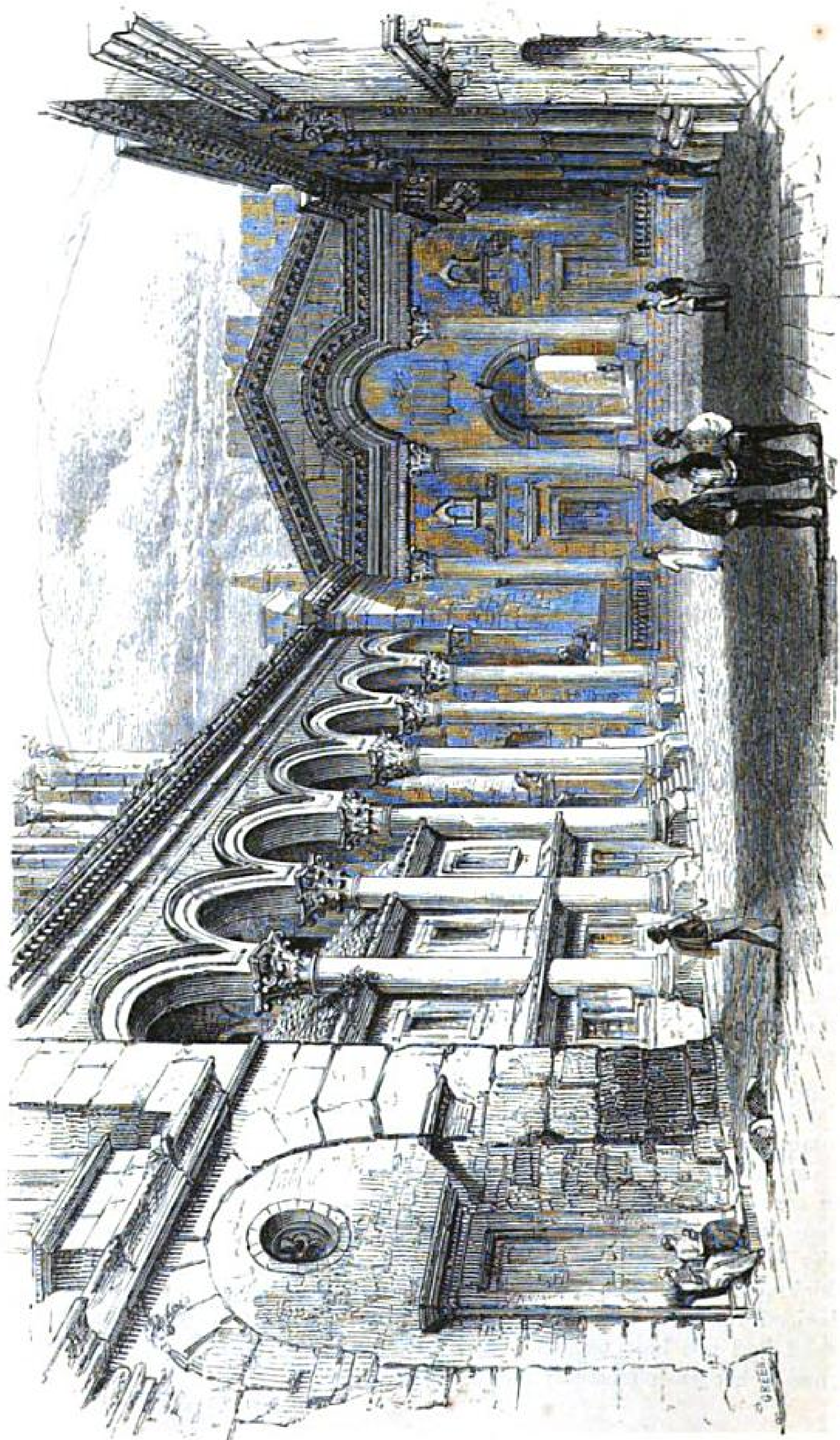
The Romans used these arcades with all the 3 orders, frequently one over the other, and tried various expedients to harmonise the construction with the ornamentation, but without much effect. They seem always to have felt the discordance as a blemish, and at last got rid of it, but whether they did so in the best way is not quite clear. The most obvious mode of effecting this would no doubt have been by omitting the pillars altogether, bending the architrave, as is usually done, round the arch, and then inserting the frieze and cornices into the wall, using them as a string-course. A slight degree of practice would soon have enabled them—by panelling the pier, cutting off its

angles, or some such expedient—to have obtained the degree of lightness or of ornament they required, and so really to have invented a new order.

This, however, was not the course that the Romans pursued. What they did was to remove the pier altogether, and to substitute in its place the pillar taken down from its pedestal. This of course was not effected at once, but was the result of many trials and expedients. One of the earliest of these is observed in the Ionic Temple of Concord before alluded to, in which a concealed arch is thrown from the head of each pillar, but above the entablature, so as to take the whole weight of the superstructure from off the cornice between the pillars. When once this was done it was perceived that so deep an entablature was no longer required, and that it might be either wholly omitted, as was sometimes done, in the centre intercolumniation, or at all events very much attenuated. There is an old temple at Talavera in Spain, which is a good example of the former expedient; and the Church of the Holy Sepulchre, built by Constantine at Jerusalem, is a remarkable example of the latter. There the architrave is cut off so as merely to form a block over each of the pillars, and the frieze and cornice only are carried across from one of these blocks to the other, while a bold arch is thrown from pillar to pillar over these, so as to take any weight from off a member which has at last become a mere ornamental part of the style.

In the preceding reign we find all these changes already introduced into domestic architecture, as shown in the woodcut on the next page, representing the great court of Diocletian's palace at Spalatro, where at one end the entablature is wholly omitted for the central intercolumniation, and at the sides the arches spring directly from the capitals of the columns.

Had the Romans at this period been attempting to improve their external architecture, there is little doubt but that they would have adopted the expedient of the entire omission of the entablature; but at this time almost all their efforts were devoted to internal improvement, often at the expense of the exterior. Indeed the whole history of Roman art, from the time of Augustus to that of Constantine, is a transition from the external architecture of the Greeks to the internal architecture of the Christians. At first we see the cells of the temple gradually enlarged at the expense of the peristyle, and at last, as in the Pantheon, entirely overpowering them. Their basilicas and halls become more important than their porticos, and the exterior is in almost every instance sacrificed to the internal arrangements. For an interior, an arch resting on a circular column is obviously far more appropriate than one resting on a pier. Externally, on the contrary, the square pier is most suitable, because a pillar cannot support a wall of sufficient thickness. This defect was not remedied until the Gothic architects devised the plan of coupling two or more pillars together; but this point had not been reached at the time when Rome fell, and all progress in art was effectually checked for a time.



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View of Court-yard at Spalatro. From Sir Gardner Wilkinson's Dalmatia.

TEMPLES.

There is perhaps nothing that strikes the inquirer into the architectural history of the Imperial city more than the extreme insignificance of her temples, as compared with the other buildings of Rome itself, and with some temples found in the provinces. The only temple which remains at all worthy of such a capital is the Pantheon. All others are now mere fragments, from which we can hardly restore even the plans of the buildings, much less judge of their effect. We have now no means of judging what the great national temple of the Capitoline Jove may have been, no trace of it, nor any intelligible description, having been preserved to the present time. Its being of Etruscan origin, and retaining its original form to the latest day, would lead us to suppose that the temple itself was small, and its magnificence, if any, confined to the enclosure and to the substructure, which may have been immense.

Of the Augustan age we have nothing but the remains of 3 temples, consisting of only 3 columns of each; and the excavations that have been made around them have not sufficed to make even their plans tolerably clear.

The most beautiful was that of Jupiter Stator in the Forum, the beauty of whose details has been already alluded to and described. This temple was octastyle in front. It was raised on a stylobate 22 ft. in height, whose extreme width was 98 ft., which corresponds as closely as possible with 100 Roman ft. The angular columns are 85 ft. from centre to centre. The height of the pillars was 48 ft., and that of the entablature 12 ft. 6 in.[1] It is probable that the whole height to the apex of the pediment was nearly equal to the extreme width, and meant to be so.

The pillars certainly extended on both flanks, and generally it is restored as peristylar, but I believe without any authority. From the analogy of the other temples it seems more probable that there were not more than 8 or 10 pillars on each side, and that the apse of the cella formed the termination opposite the portico.

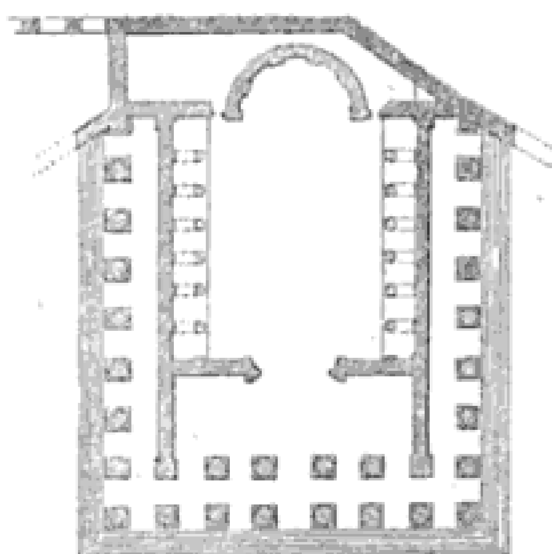
The temple nearest to this in situation and style is that of Jupiter Tonans.[2] The order in this instance is of slightly inferior dimensions to that of the temple just described, and of very inferior execution. The temple too was very much smaller, having only 6 columns in front, and from its situation it could not well have had more than that number on the flanks, so that its extreme dimensions were probably about 70 ft. by 85 ft.

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[1] These dimensions, with all those that follow, unless otherwise specified, are taken from Taylor and Creasy's 'Architectural Antiquities of Rome,' London, 1821. They seem more to be depended upon than any others I am acquainted with.

[2] These two temples, like almost all the others of Rome, have recently been re-named by the Roman or rather German antiquarians. The Jupiter Tonans is now the Temple of Saturn, and the Jupiter Stator is decreed to have been a Temple of Minerva. I have preferred the names by which they are currently known, as the architecture is of more importance here than the archæology.

The third is the Temple of Mars Ultor, of which a plan is annexed; for though now as completely ruinous as the other two, in the time of Ant. Sabacco and Palladio there seem to have been sufficient remains to justify a restoration. As will be seen, it is nearly square in plan (112 ft. by 120). The cella is here a much more important part than is usual in Greek temples, and terminates in an apse, which afterwards became characteristic of all places of worship. Behind the cella, and on each side, was a lofty screen of walls and arches, part of which still remain, which certainly formed quite a new adjunct to anything we know of in a temple form.



217. Temple of Mars Ultor. From Creasy's Rome.

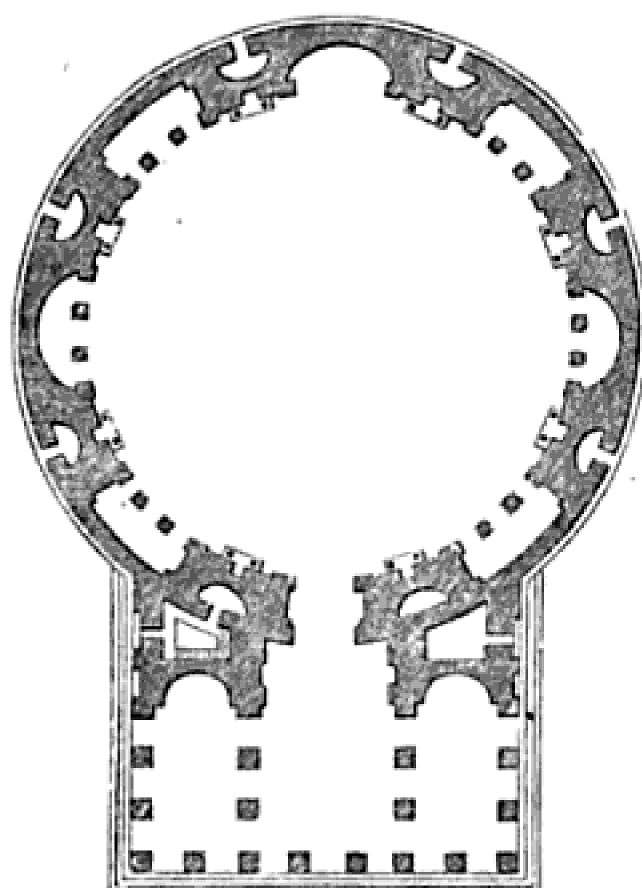
The next class of temples, called pseudo-peripteral (or those in which the cella occupies the whole of the after part), are generally more modern, certainly more completely Roman, than these last. One of the best specimens at Rome is the Temple of Antoninus and Faustina, a small building measuring 72 ft. by 120. There is also a very elegant small Ionic temple of this class called that of Fortuna Virilis; and the Ionic Temple of Concord, built by Vespasian, above alluded to, seems also to have been of this class. So was the temple in the forum at Pompeii; but the finest specimen now remaining to us is the so-called Maison Quarrée at Nîmes, which is indeed one of the most elegant temples of the Roman world, owing probably a great deal of its beauty to the taste of the Grecian colonists long settled in its neighbourhood. It is hexastyle, with 11 columns in the flanks, 3 of which stand free, and belong to the portico; the remaining 8 are attached to the walls of the cella. The temple is small, only 45 ft. by 85; but such is the beauty of its proportions and the elegance of its details that it strikes every beholder with admiration.

The date of this temple has not been satisfactorily ascertained. From the nail-holes of the inscription on the frieze it has been attempted to make out the names of Caius and Lucius Cæsar, but it much more probably belongs to the time of Trajan or of Hadrian, when Nîmes was in the height of its prosperity.

Not far from the Colosseum, in the direction of the forum, are still to be seen the remains of a great double temple built by the Emperor Hadrian, and dedicated to Venus and Rome. Nothing of this is now to be found but the remains of the 2 cells, each about 70 ft. square, covered with tunnel vaults, and placed back to back, so that their apses touch one another. These stand on a platform 480 ft. long by 330 wide; and it is generally supposed that on the edge of this stood 56 great columns, 65 ft. in height, thus moulding the whole into one great peripteral temple. Some fragments of such pillars are said to be found in the neighbourhood, but not one erect,—not even a base in its place,—nor can any of its columns be traced as transported to any

other buildings; so that I am afraid this part of the arrangement is very problematical, and I should be rather inclined to restore it, as Palladio and the older architects have done, with a corridor of 10 small columns in front of each of the cells. If we could assume the plan of this temple to have been really peripteral, as supposed, it must have been a building worthy of the Imperial city, and of the magnificence of the emperor to whom its erection is ascribed.

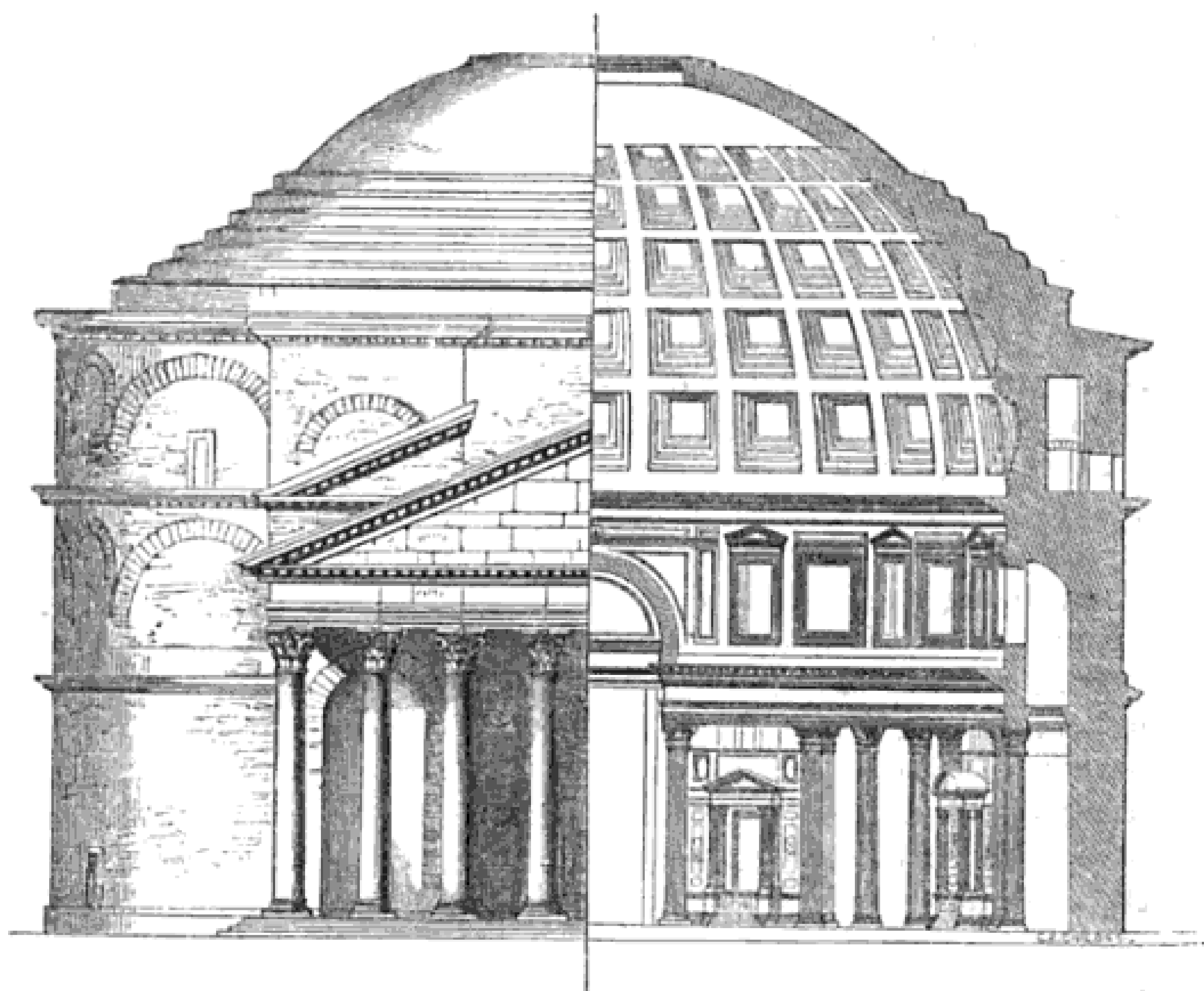
More perfect and more interesting than any of these is the Pantheon, which is undoubtedly one of the finest temples of the ancient world. Externally its effect is very much destroyed by its two parts, the round and the rectangular, being so dissimilar in style and so incongruously joined together. The portico especially, in itself the finest which Rome exhibits, is very much injured by being prefixed to a mass which overpowers it and does not harmonise with any of its lines. The pitch, too, of its pediment is perhaps somewhat too high, but, notwithstanding all this, its 16 columns, the shaft of each composed of a single block, and the simple grandeur of the details, render it perhaps the most satisfactory example of its class.



248. Plan of Pantheon at Rome. Scale 100 ft. to 1 in.

The pillars are disposed in the Etruscan fashion, and it is probable that originally they formed the portico to a 3-celled temple. The portico, as we know, not only from the inscription, but from the style, belongs to the age of Augustus, and it is generally supposed that it was at that time added by Agrippa to the pre-existing rotunda. I feel convinced that the contrary was the case, and that the rotunda is very much more modern than the portico. We know from history that the building was frequently damaged by fire, and restored first by Hadrian and afterwards by Septimius Severus in the year A.D. 202. If the interior of the building, as originally erected, consisted of rectangular cells of the Etruscan form, constructed of wood—at any rate with a wooden roof—which I believe to have been the case, such disasters were not only possible, but probable; but no fire could damage such a building as we now find. Besides this, we know of no attempt at vaulting on anything like such a scale as this in the Augustan age, and the temples at that time all affected the Greek peristylar form. Thenceforward the cells were gradually enlarged, and gradually, too, the exterior was sacrificed to the interior, which characteristics are here carried to excess. Besides this, the masonry of the rotunda is full of useless discharging arches, and shows other peculiarities of the latest age. All these considerations put together would incline me to place

it very near the age of Constantine, could I find any trace of a later restoration than that above alluded to; but, under any circumstances, I do not think it can have been erected before the age of Hadrian.



249. Half Elevation, half Section, of the Pantheon at Rome. Scale 50 ft. to 1 in.

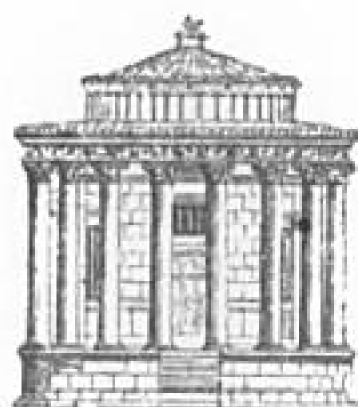
Internally perhaps the greatest defect of the building is a want of height in the perpendicular part, which the dome appears to overpower and crush. This mistake is aggravated by this lower part being cut up into two stories, an attic being placed over the lower order. The former defect may have arisen from the architect wishing to keep the walls in some proportion to the portico. The latter is a peculiarity of the age in which I suppose this temple to have been erected, when two or more stories seem to have become indispensable requisites of architectural design. We must ascribe also to the practice of the age the method of cutting through the entablature by the arches of the great niches, as shown in the sectional part of the last woodcut. It has already been pointed out that this was becoming a characteristic of the style at the time when the circular part of this temple appears to have been erected.

Notwithstanding these defects and many others of detail that might be mentioned, there is a grandeur and a simplicity in the proportions of this great temple that render it still one of the very finest and most sublime interiors in the world; and though it is deprived of its bronze covering and of the greater part of those ornaments on which it mainly depended for effect, and though these have been replaced by tawdry

and incongruous modernisms, still nothing can destroy the effect of a design so vast and of a form so simply grand. It possesses another element of architectural sublimity in having only one window, and that placed high up in the building. I know of no other temples which possess this feature except the great rock-cut Buddhist basilicas of India. In them the light is introduced even more artistically than here; but, nevertheless, that one great eye opening upon heaven is by far the noblest conception for lighting a building to be found in Europe.

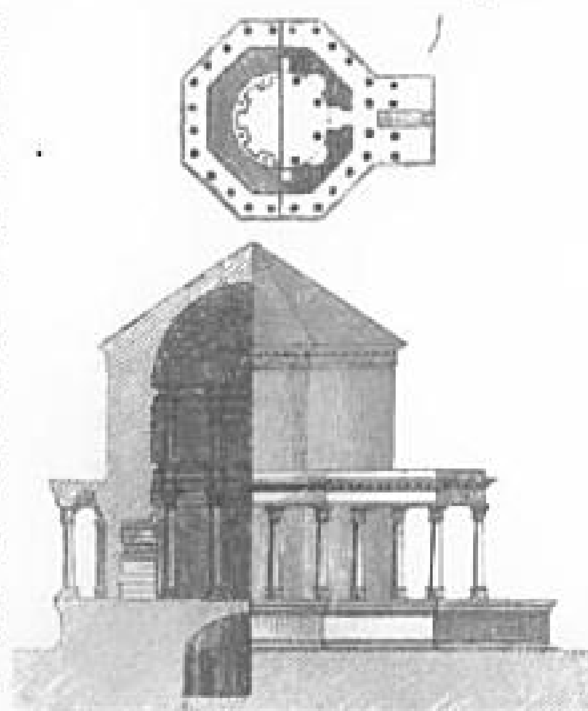
Besides this great rotunda there are two other circular temples in or near Rome. The one, at Tivoli, shown in plan and elevation in the annexed woodcuts (Nos. 250 and 251), has long been known and admired; the other, near the mouth of the Cloaca Maxima, has a cell surrounded by 20 Corinthian columns of singularly slender proportions. Both these probably stand on Etruscan sites, and certainly were Etruscan in form, and probably sacred to Pelasgic deities, either Vesta or Cybele.


250. Plan of Temple at Tivoli. Scale 100 ft. to 1 in.


251. Restored Elevation of Temple at Tivoli. Scale 50 ft. to 1 in.

Both in dimensions and design they form a perfect contrast to the Pantheon, as might be expected from their both belonging to the Augustan age of art: consequently the cella is small, its interior unornamented, and all the art and expense lavished on the external features, especially the peristyle, show more strongly than even the rectangular temple the still remaining predominance of Grecian taste, which had disappeared before the erection of the Pantheon.

It is to be regretted that the exact date of both these temples is unknown, for, as that at Tivoli shows the stoutest example of a Corinthian column known, and that in Rome the slenderest, it might lead to some important deductions if we could be certain which was the older of the two. It may be, however, that this difference of style has no connexion with the relative age of the two buildings, but that it is merely an instance of the good taste of the age to which they belong. The Roman example, being placed in a low and flat situation, required all the height that could be given it; that at Tivoli, being placed on the edge of a rock, required as much solidity as the order would admit of to prevent its looking poor and insecure. A Gothic or a Greek architect would certainly have made this distinction.


252. Plan and Elevation of Temple in Diocletian's Palace at Spalatro. Scale for Plan 100 ft. to 1 in.; for Elevation 50 ft. to 1 in.

One more step towards the modern style of round temples was taken before the fall of the Western Empire, in the temple which Diocletian built in his palace at Spalatro. Internally the temple is circular, 28 ft. in diameter, and the height to the dome, or perpendicular part, is about equal to its width. This is a much more pleasing proportion than we find in the Pantheon, perhaps the very best that has yet been employed. Externally the building is an octagon, surrounded by a low dwarf peristyle, very unlike that employed in the older examples. This angularity is certainly a great improvement, giving expression and character to the building, and affording flat faces for the entrances or porches; but the peristyle is too low, and mars the dignity of the whole.[1]

To us its principal interest resides in its being so extremely similar to the Christian baptisteries which were erected in the following centuries, and which were copies, but very slightly altered, from buildings of this class.

Athens.

Even assuming that Hadrian completed the great temple of Venus and Rome in the manner generally supposed, it must have been very far surpassed by the great temple of Jupiter Olympius at Athens, which, though probably not entirely erected, was certainly finished, by that emperor. It was decastyle in front, with a double range of 20 columns on each flank, so that it could not well have had less than 120 columns, all about 58 ft. in height, and of the most elegant Corinthian order, presenting a group of more extended magnificence than any other temple we are acquainted with of its class in the ancient world. Its lineal dimensions also, as may be seen from the plan (woodcut No. 222), were unrivalled, as it was 171 ft. wide by 354 in length, or, as nearly as may be, the same as those of the great Hypostyle Hall at Karnac, from which, however, it differs most materially, that being an interior, this depending for all its magnificence on the external arrangement of its columns. Nothing now remains to enable us to restore its internal arrangement with anything like certainty; but there seems reason to believe that the outer part of the cella was arranged as a peristylar court open in the centre, probably in two stories, so as to admit light into the interior. This arrangement became so common in the early Christian world that there must have been some precedent for it which, besides other reasons,[2] strongly incline me to believe that the arrangement shown in the plan is correct.

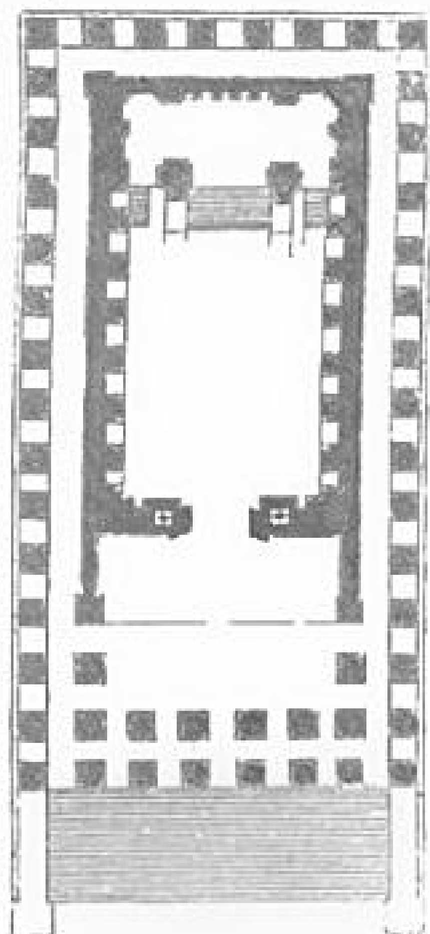
Baalbec.

The temples of Palmyra and Kangovar have been already mentioned in speaking of that of Jerusalem, to which class they seem to

[1] This building is commonly called a temple, though it is not known to what deity it was dedicated. My own impression is that it was a tomb, or at least a funeral monument of some sort.

[2] See 'True Principles of Beauty in Art,' p. 392, where the reasons for this arrangement will be found stated at length.

belong in their general arrangements, though their details are borrowed from Roman architecture. This, however, is not the case with the temples at Baalbec, which, taken together and with their accompaniments, form the most magnificent temple group now left to us of their class and age. The great temple, if completed (which, however, it probably never was), would have been about 160 ft. by 290, and therefore only inferior to that of Jupiter Olympius at Athens. Only 9 of its colossal columns are now standing, but the bases of most of the others are *in situ*. Scarcely less magnificent than the temple itself was the court in which it stood, above 380 ft. square, and surrounded on 3 sides by recessed porticos of most exuberant richness, though perhaps rather questionable taste. In front of this was a hexagonal court of very great beauty, with a noble portico of 12 Corinthian columns, with 2 square blocks of masonry at each end. The whole extent of the portico is 260 ft., and of its kind it is perhaps unrivalled, certainly among the buildings of so late a date as the period to which it belongs.



253. Plan of Small Temple at Baalbec. Scale 100 ft. to 1 in.

The other, a smaller temple, stands close to the larger. Its dimensions, to the usual scale, are shown in the plan (woodcut No. 253). It is larger than any of the Roman peripteral temples, being 117 ft. by 227 ft., or rather exceeding the dimensions of the Parthenon at Athens, and it is both wider and higher than the portico of the Pantheon at Rome. Had this portico been applied to that building, the slope of its pediment would have coincided exactly with that of the upper sloping cornice, and would have been the greatest possible improvement to that edifice. As it is, it certainly is the best proportioned and the most graceful Roman portico of the first class that remains to us in a state of sufficient completeness to allow us to judge of its effect.



254. Elevation of Small Temple at Baalbec. Scale 50 ft. to 1 in.

The interior of the cella was richly ornamented with niches and

pilasters, and covered with a ribbed and coffered vault, remarkable, like every part of this edifice, rather for the profusion than for the good taste of its ornaments.

One of the principal peculiarities of this group of buildings is, the immense size of some of the stones used in the substructure of the great temple: three of these average about 63 ft. in length, 10 ft. 5 in. in breadth, and 13 ft. in height. A fourth is lying in the quarry of similar dimensions, which it is calculated must weigh alone more than 1100 tons in its rough state, or nearly as much as one of the tubes of the Britannia bridge. It is not easy to see of what use such masses were; but in many places in the Bible and in Josephus nothing is so much insisted upon as the immense size of the stones used in the building of the temple and the walls of Jerusalem, which seems to have been thought far more important than the architecture. It probably was some such feeling that led to their employment here, though, had they been set upright as the Egyptians would have done, it would be easier to understand why so great an expense should have been incurred on their account.

CHAPTER IV.

BASILICAS, THEATRES, AND BATHS.

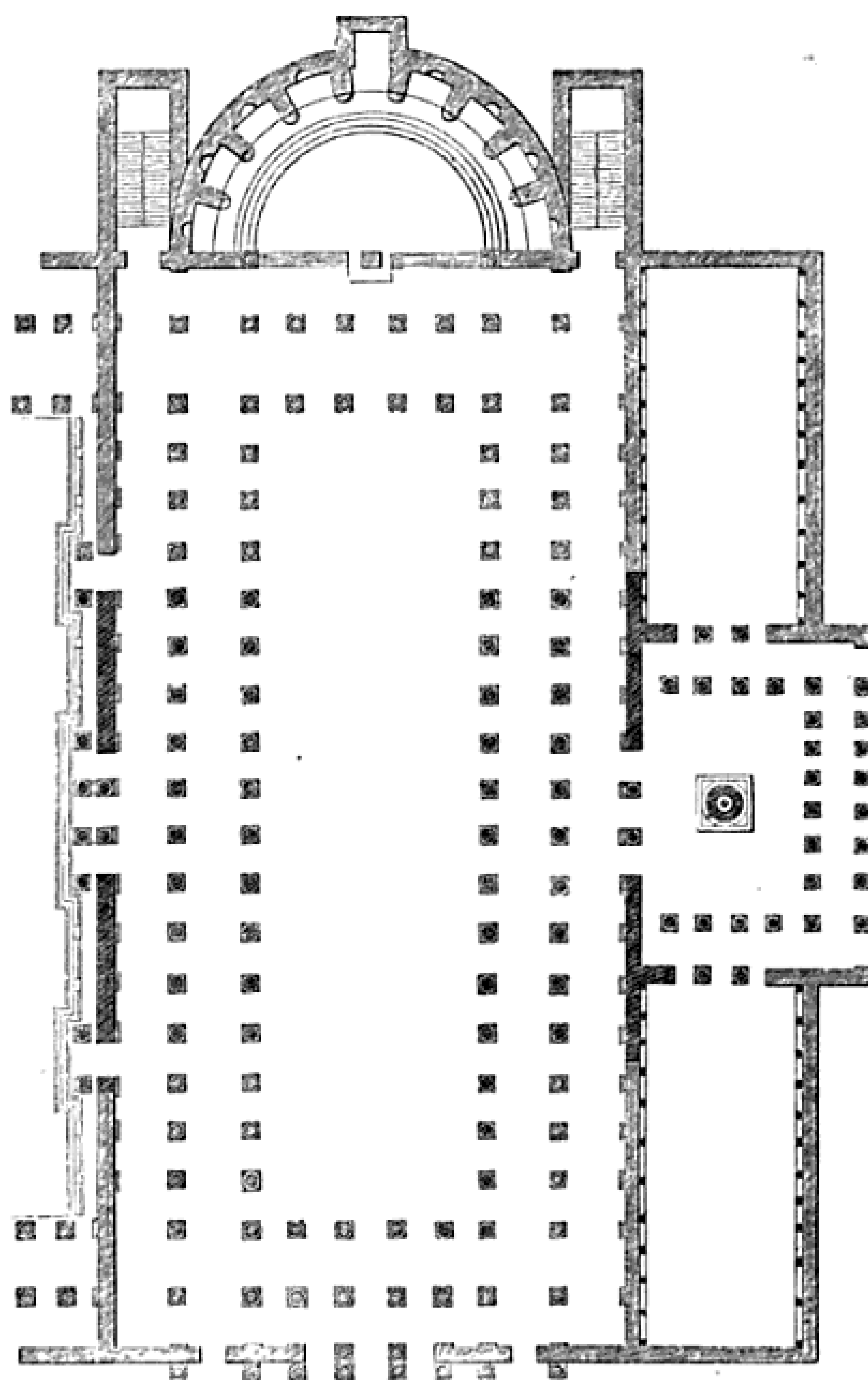
CONTENTS.

BASILICAS.

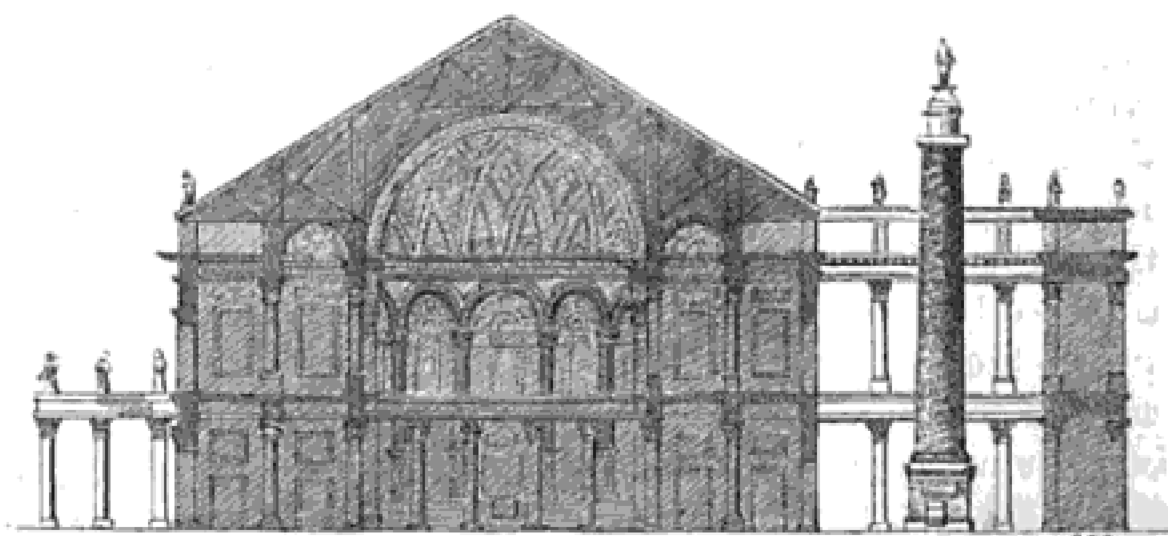
WE have already seen that in size and magnificence the temples of Rome were among the least remarkable of her public buildings. It may be doubted whether, in any respect, in the eyes of the Romans themselves, the temples were as important and venerable as the basilicas. That people cared for government and justice more than for religion, and consequently paid more attention to the affairs of the basilicas than to those of the temples. Our means for the restoration of this class of buildings are now but small, owing to their slight construction in the first instance, and to their materials having been so suitable for the building of Christian basilicas as to have been extensively used for that purpose. It happens however that the remains which we do possess comprise what we know to have been the two most splendid basilicas of Rome, and are sufficiently complete to enable us to restore their plans with considerable confidence. It is also fortunate that one of these, the Ulpian or Trajan's basilica, is the typical specimen of those with wooden roofs; the other, that of Maxentius, commonly called the Temple of Peace, is the noblest of the vaulted class.

The rectangular part of Trajan's basilica was 180 ft. in width and a little more than twice that in length, but, neither end having yet been excavated, its exact longitudinal measurement has not been ascertained. It was divided into 5 aisles by 4 rows of columns, each about 35 ft. in height, the centre being 87 ft. wide, and the side aisles 23 ft. 4 in. each. The centre was covered by a wooden roof of semicircular form, covered apparently with bronze plates richly ornamented and gilt. Above the side aisles was a gallery, the roof of which was supported by an upper row of columns. From the same columns also sprang the arches of the great central aisle. The total internal height was thus probably about 120 ft., or higher than any English cathedral, though not so high as some German and French ones.

At one end was a great semicircular apse, the back part of which was raised, being approached by a semicircular range of steps. In the centre of this platform was the raised seat of the quæstor or other magistrate who presided. On each side, upon the steps, were places



255. Plan of Trajan's Basilica at Rome. Scale 100 ft. to 1 in.



256. Section of Trajan's Basilica. Scale 100 ft. to 1 in.

for the assessors or others engaged in the business being transacted. In front of the apse was placed an altar, where sacrifice was performed before commencing any important public business.[1]

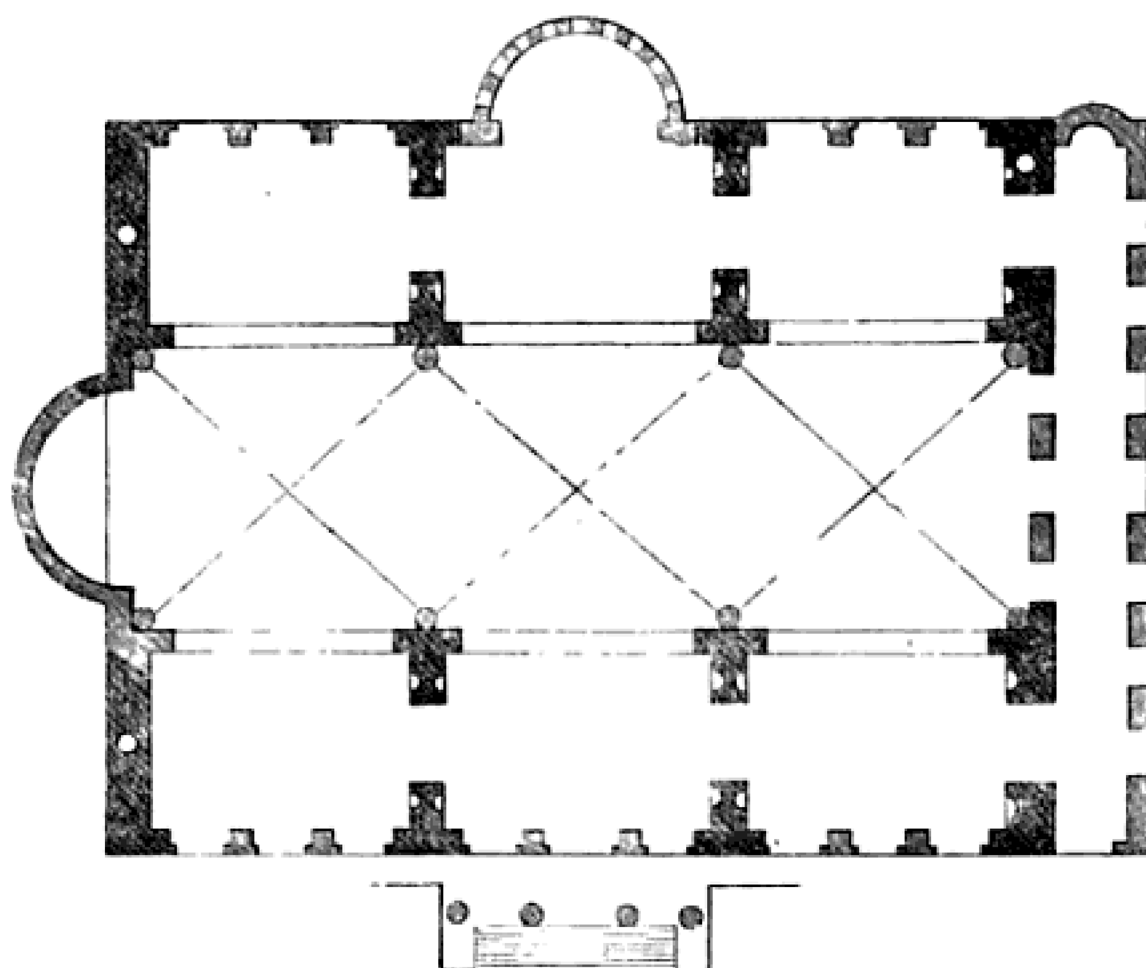
Externally this basilica could not have been of much magnificence. It was entered on the side of the Forum (on the left hand of the plan and section) by one triple doorway in the centre and two single ones on each side, covered by shallow porticos of columns of the same height as those used internally. These supported statues, or rather, to judge from the coins representing the building, rilievos, which may have set off, but could hardly have given much dignity to, a building designed as this was. At the end opposite the apse a similar arrangement seems to have prevailed.

This mode of using columns only half the height of the building must have been very destructive of their effect, and of general grandeur, but it became about this time rather the rule than the exception, and afterwards was adopted for temples and every other class of buildings, so that it certainly was an improvement when the arch took the place of the horizontal architrave and cornice, which always suggested a roof, and became singularly incongruous when applied as a mere ornamental adjunct. The interior of the basilica was, however, the important element to which the exterior was entirely sacrificed, this transition, which we have before alluded to, taking place much faster in basilicas, which were an entirely new mode of building, than in temples, whose form had become sacred from long tradition.

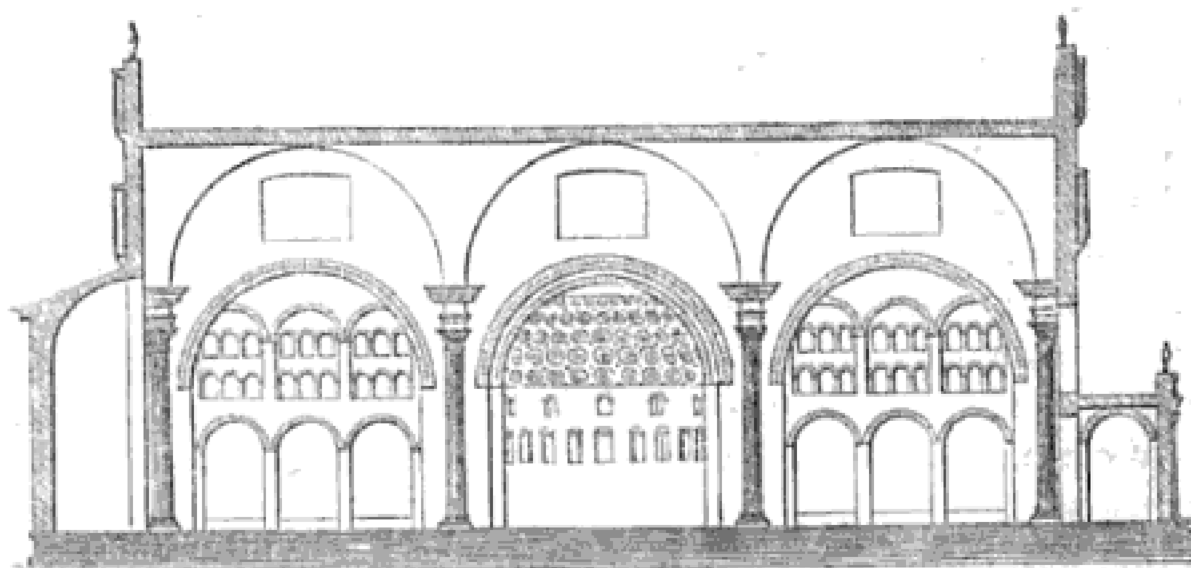
The Basilica of Maxentius, which was probably not entirely finished till the reign of Constantine, was rather broader than that of Trajan, being 195 ft. between the walls, but it was 100 ft. less in length. The central aisle was very nearly of the same width, being 83 ft. between the columns, and 120 ft. in height. There was, however, a vast difference in the construction of the two; so much so, that we are startled to see how rapid the progress had been during the interval of less than two centuries that had elapsed between the construction of the two basilicas.

In this building no pillars are used except 8 great columns in front of the piers, employed merely as ornaments, or as vaulting shafts were in Gothic cathedrals, to support in appearance, though not in construction, the springing of the vaults. The side aisles are roofed by 3 great arches, each 72 ft. in span, and the centre by an immense intersecting vault in 3 compartments. The form of these will be understood from the annexed sections, one taken longitudinally, the other across the building. As will be seen from them, all the thrusts are collected to a point and a buttress placed there to receive them: indeed almost all the peculiarities afterwards found in Gothic vaults are here employed on a far grander and more gigantic scale than the Gothic architects ever attempted; but at the same time it must be

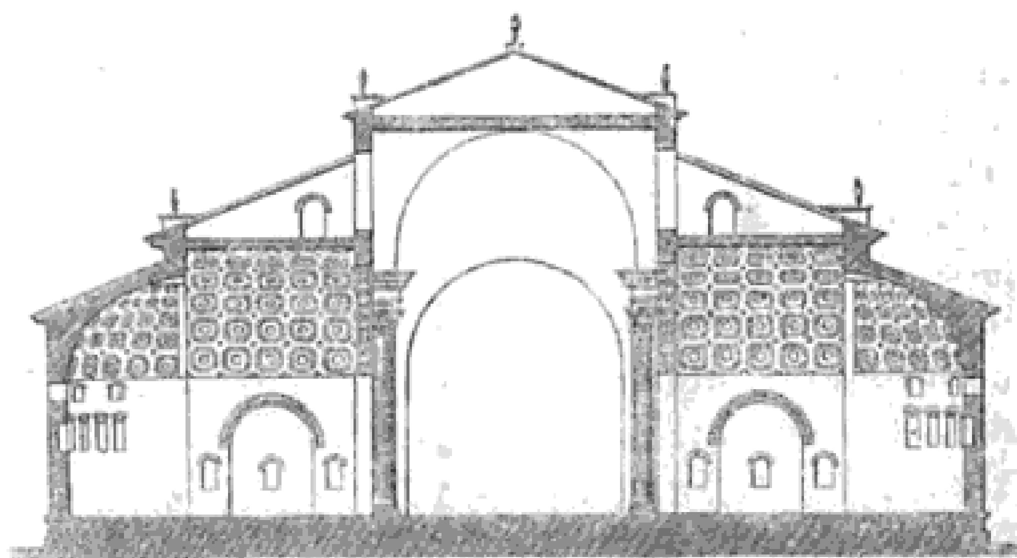
[1] This basilica is generally represented as having an apse at either end; but there is no authority whatever for this, and general analogy would lead us rather to infer that it was not the case.



257 Plan of Basilica of Maxentius. Scale 100 ft. to 1 in.



258. Longitudinal Section of Basilica of Maxentius. Scale 100 ft. to 1 in.

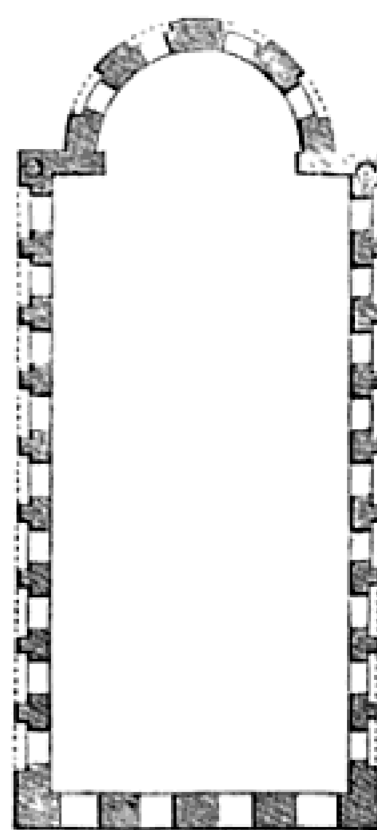


259. Transverse Section of Basilica of Maxentius. Scale 100 ft. to 1 in.

allowed that the latter, with smaller dimensions, often contrived by a more artistic treatment of their materials to obtain as grand an effect, and far more actual beauty, than ever were attained in the great transitional halls of the Romans. The largeness of the parts of the Roman buildings was indeed their principal defect, as in consequence of this they must all have looked smaller than they really were, whereas in all Gothic cathedrals the repetition and smallness of the component parts gives them the appearance of being larger than their real dimensions.

The roofs of these halls had one peculiarity which it would have been well if the mediæval architects had copied, inasmuch as they were all honestly used as roofs without the necessity of being covered with others of wood, as all Gothic vaults unfortunately were. It is true this is perhaps one of the causes of their destruction, for, being only covered with cement, the rain wore away the surface, as must be inevitably the case with any composition of the sort exposed horizontally to the weather, and, that being gone, the moisture soon penetrated through the crevices of the masonry, and the stability of the vault inevitably became impaired. Still some of these have in Rome resisted for 15 centuries all the accidents of climate and decay, while there is not a Gothic vault of half their dimensions that would exist for a century after the removal of its wooden protection. It therefore still remains a problem for modern times to construct a vault capable of resisting the destructive effects of exposure to the atmosphere. Until this is accomplished we must regard honest wooden roofs as preferable to the false stone ones which were such favourites in the middle ages.

The provincial basilicas of the Roman empire have nearly all perished, probably from their having been converted, first into churches, for which they were so admirably adapted, and then rebuilt to suit the exigencies and taste of subsequent ages. One example, however, still exists in Trèves of sufficient completeness to give a good idea of what such structures were. As will be seen by the annexed plan it consists of a great hall 90 ft. in width internally, and as nearly as possible twice that length. The walls are about 100 ft. in height and pierced with two rows of windows, but whether they were originally separated by a gallery or not is now by no means clear. At one end was the apse, rather more than a semicircle of 60 ft. in diameter. The floor of the apse was raised considerably above that of the body of the building, and was no doubt adorned by a hemicycle of seats raised on steps, with a throne in the centre for the judge. The building has been used for so many purposes since the time of the Romans, and has been so much altered, that it is not easy

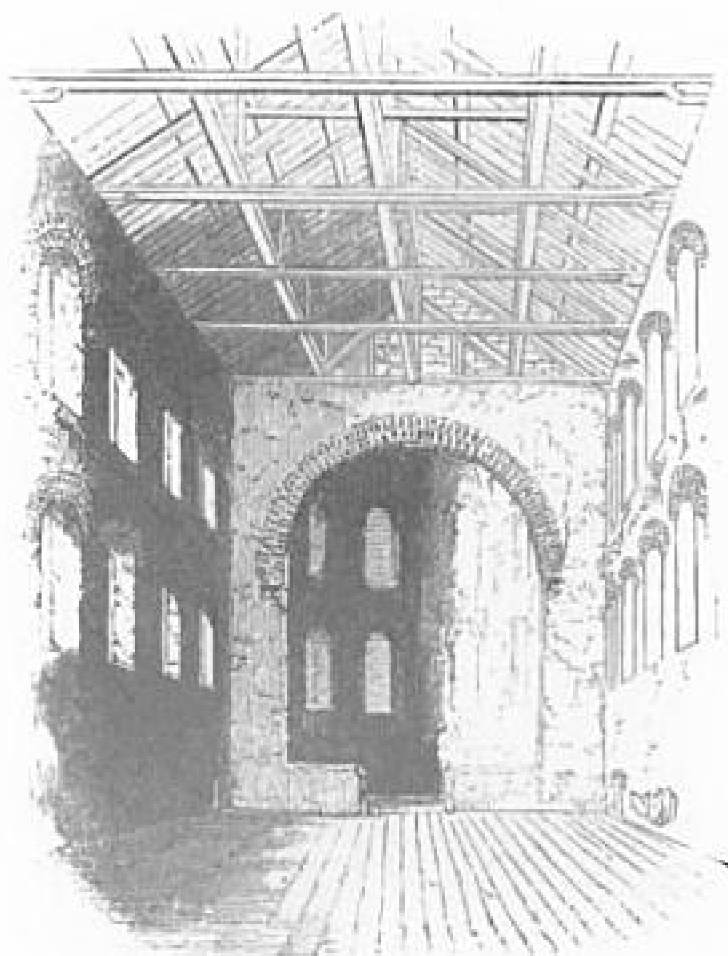

260. Plan of the Basilica at Trèves.
Scale 100 ft. to 1 in.

now to speak with certainty of any of its minor arrangements. Its internal and external appearance, as it now stands, are well expressed in the annexed woodcuts; and, ruined though it appears, it is still



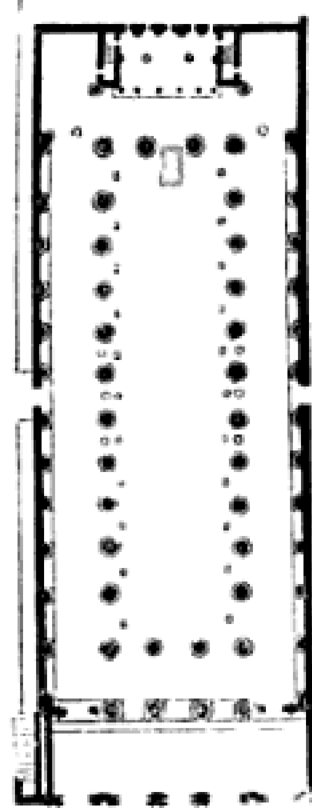
261. External View of the Basilica at Trèves.

the most complete example of a Roman basilica to be found anywhere out of the capital. A building of this description has been found at Pompeii, which may be considered a fair example of a provincial basilica of the second class. Its plan is perfectly preserved, as shown in the woodcut, No. 263. The most striking difference existing between it and those previously described is the square termination instead of the circular apse. It must however be observed that Pompeii was situated nearer to Magna Græcia than to Rome, and was indeed far more a Greek than a Roman city. Very slight traces of any Etruscan forms have been discovered there, and scarcely any buildings of the circular plan, which was so much in vogue in the capital. Though the ground-plan of this basilica remains perfect, the upper parts of this building are entirely destroyed, and we do not even know for certain whether the central part was roofed or not; my own impression is, however, that it certainly was so,



262. Internal View of the Basilica at Trèves.

and lighted by a clerestory like the cellæ of Greek temples; as, however, it had no peristyle, it may also have had windows in the upper gallery, and the clerestory windows were probably not countersunk like those in the Greek temples.



263. Plan of Basilica at Pompeii. Scale 100 ft. to 1 in.

There is a small square building at Otricoli, which is generally supposed to be a basilica, but its object as well as its age is so uncertain that nothing need be said of it here. In the works of Vitruvius, too, there is a description of one built by him at Fano, the restoration of which has occupied the ingenuity of the admirers of that worst of architects. Even taking it as restored by those most willing to make the best of it, it is difficult to understand how anything so bad could have been erected in such an age.

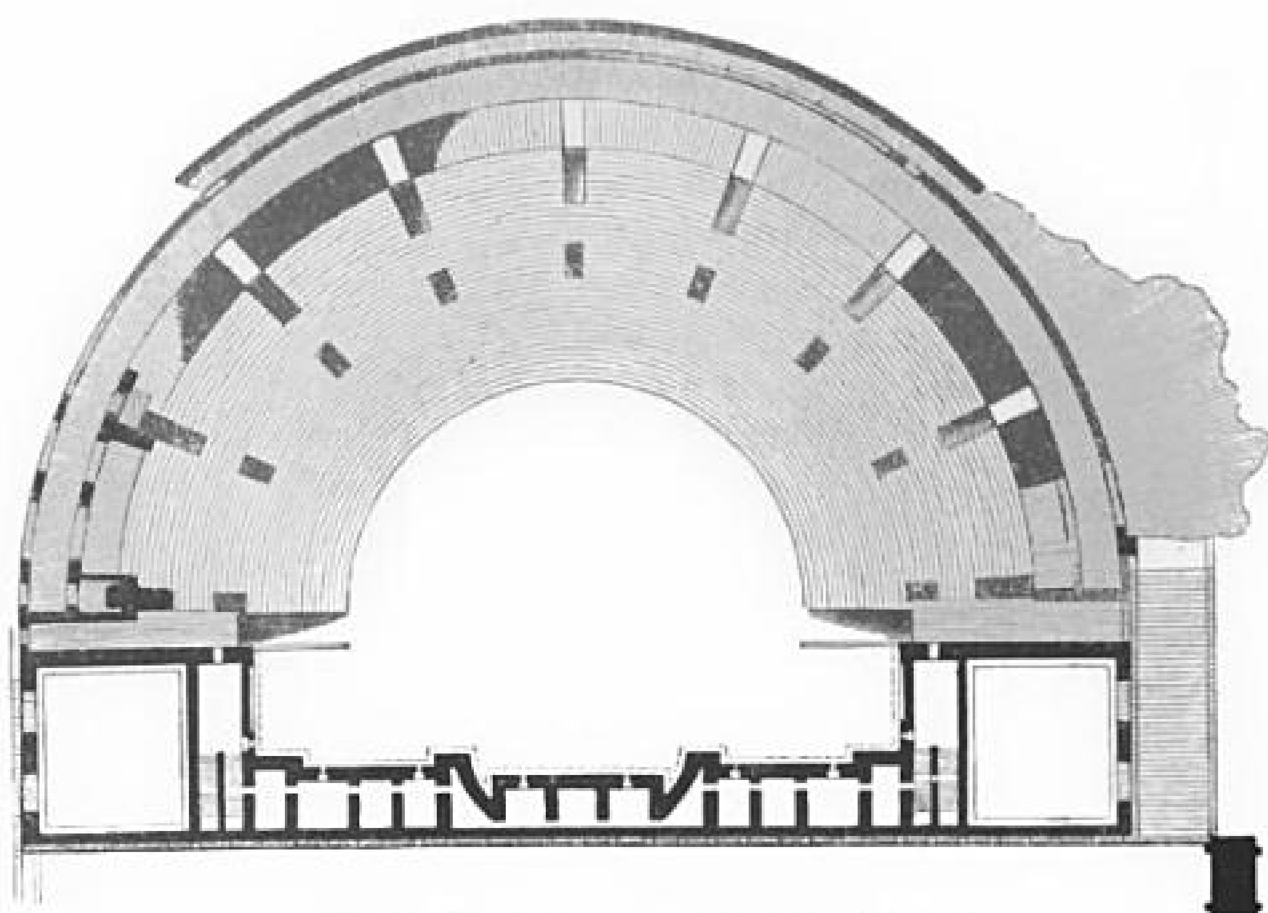
It is extremely difficult to trace the origin of these basilicas, owing principally to the loss of all the earlier examples. Their name is Greek, and they may probably be considered as the descendants of the Grecian Lesche, or perhaps as amplifications of the cellæ of Greek temples, appropriated to the purposes of justice rather than of religion; but till we know more of their earlier form and their antecedents, it is useless speculating on this point. The greatest interest to us arises rather from the use to which their plan was afterwards applied than from the source from which they themselves sprang. All the earlier Christian churches were copies, more or less exact, of the basilicas of which that of Trajan is an example. The abundance of pillars, suitable to such an erection, that were found everywhere in Rome, rendered their construction easy and cheap; and the wooden roof with which they were covered was also as simple and as inexpensive a covering as could well be designed. The very uses of the Christian basilicas at first were by no means dissimilar to those of their heathen originals, as they were in reality the assembly halls of the early Christian republic, before they became liturgical churches of the catholic hierarchy.

The more extensive construction of the bold vaults of the Maxentian basilica went far beyond the means of the early Church, established in a declining and abandoned capital, and this form therefore remained dormant for 7 or 8 centuries before it was revived by the mediæval architects on an infinitely smaller scale, but adorned with a degree of taste to which the Romans were strangers. It was then used with a completeness and unity which entitle it to be considered as an entirely new style of architecture.

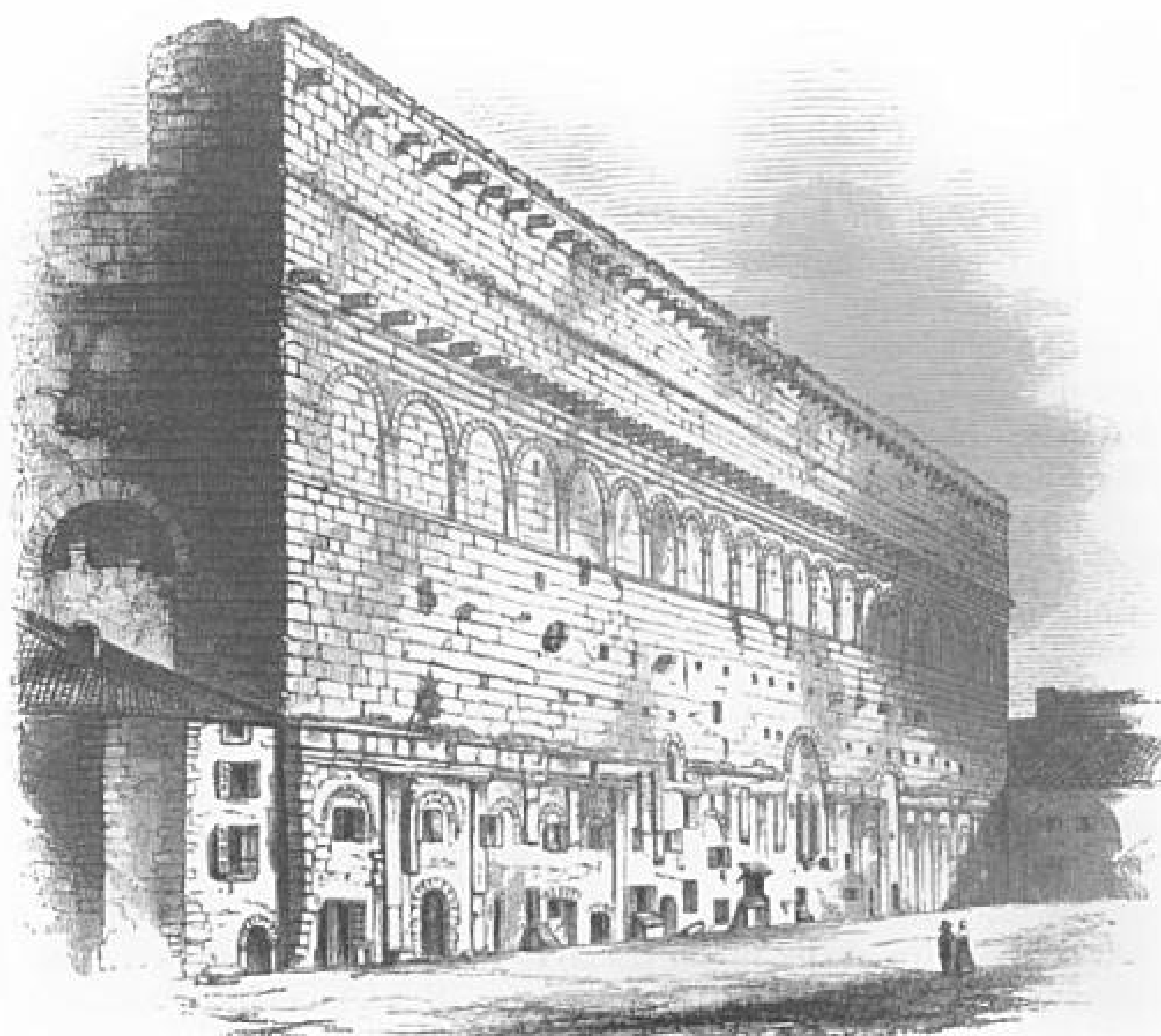
Theatres.

The theatre was by no means so essential a part of the economy of a Roman city as it was of a Grecian one. With the latter it was quite as indispensable as the temple; and in the semi-Greek city of Her-

culaneum there was one, and in Pompeii two, on a scale quite equal to those of Greece when compared with the importance of the town itself. In the capital there appears only to have been one, that of Marcellus, built during the reign of Augustus. It is very questionable whether



261. Plan of the Theatre at Orange. Scale 100 ft. to 1 in.



265. View of the Theatre at Orange.

what we now see—especially the outer arcades—belong to that age, or whether the theatre may not have been rebuilt and these arcades added at some later period. It is so completely built over by modern houses, and so ruined, that it is extremely difficult to state anything positively about it. Its dimensions were worthy of the capital, the audience part being a semicircle of 410 ft. in diameter, and the scena being of great extent in proportion to the other part, which is a characteristic of all Roman theatres, as compared with Grecian edifices of this class.

One of the most striking Roman provincial theatres is that of Orange, in the south of France. Perhaps it owes its existence, or at all events its splendour, to the substratum of Grecian colonists that preceded the Romans in that country. Its auditorium is 340 ft. in diameter, but much ruined, in consequence of the princes of Orange having used this part as a bastion in some fortification they were constructing.

The stage is very tolerably preserved. It shows well the increased extent and complication of arrangements required for the theatrical representations of the age in which it was constructed, being a considerable advance towards the more modern idea of a play, as distinguished from the stately semi-religious spectacle in which the Greeks delighted. The noblest part of the building is the great wall at the back, an immense mass of masonry, 340 ft. in extent, and 116 ft. in height, without a single opening above the basement, and no ornament except a range of blank arches, about midway between the basement and the top, and a few projecting corbels to receive the footings of the masts that supported the velarium. Nowhere does the architecture of the Romans shine so much as when their gigantic buildings are left to tell their own tale by the imposing grandeur of their masses. Whenever ornament is attempted, their bad taste comes out. The size of their edifices, and the solidity of their construction, were only surpassed by the Egyptians, and not always by them; and when, as here, their mass stands unadorned in all its native grandeur, criticism is disarmed, and the spectator stands awe-struck at its majesty, and turns away convinced that truly "there were giants in those days." This is not, it is true, the most intellectual way of obtaining architectural effect, but it is the easiest and the most certain to secure the desired result.

AMPHITHEATRES.

The deficiency of theatres erected by the Romans is far more than compensated by the number and splendour of their amphitheatres, which, with their baths, may be considered as the true types of Roman art. It seems almost certain that they derived this class of public buildings from the Etruscans. At Sutri there is a very noble one cut out of the tufa rock, which was no doubt used by that people for festal representations long before Rome attempted anything of the kind. It is uncertain whether gladiatorial fights or combats of wild beasts formed any part of the amusements of the arena in those days,

though boxing, wrestling, and contests of that description certainly did; but whether the Etruscans actually proceeded to the shedding of blood and slaughter is more than doubtful.

Even in the remotest parts of Britain, in Germany, and Gaul, wherever we find a Roman settlement, we find the traces of their amphitheatres. Their soldiery, it seems, could not exist without the enjoyment of seeing men engage in doubtful and mortal combats—either killing one another, or torn to pieces by wild beasts. It is not to be wondered at that a people who delighted so much in the bloody scenes of the arena should feel but very little pleasure in the mimic sorrows and tame humour of the stage. It fitted them, it is true, to be a nation of conquerors, and gave them the empire of the world, but it brought with it feelings singularly inimical to all the softer arts, and was perhaps the great cause of their debasement.

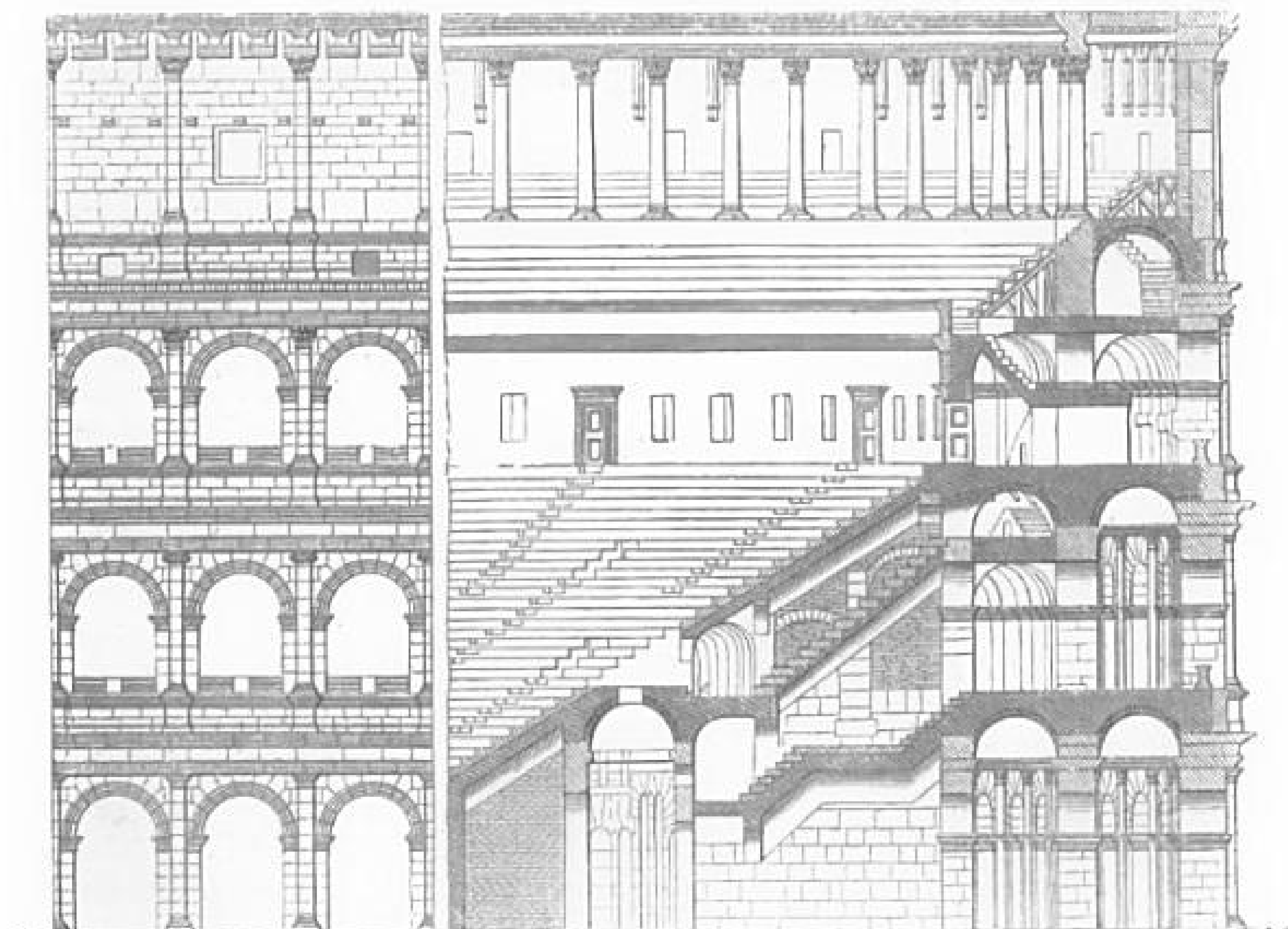
As might be expected, the largest and most splendid of these buildings is that which adorns the capital; and of all the ruins which Rome contains, none have excited such universal admiration as the Flavian amphitheatre. Poets, painters, rhapsodists, have exhausted all the resources of their arts in the attempt to convey to others the overpowering impression this building produces on their own minds. With the single exception, perhaps, of the Hall at Karnac, no ruin has met with such universal admiration as this. Its association with the ancient mistress of the world, its destruction, and the half-prophetic destiny ascribed to it, all contribute to this. Still it must be confessed that

> "The gladiators' bloody circus stands
> A noble wreck in ruinous perfection,"

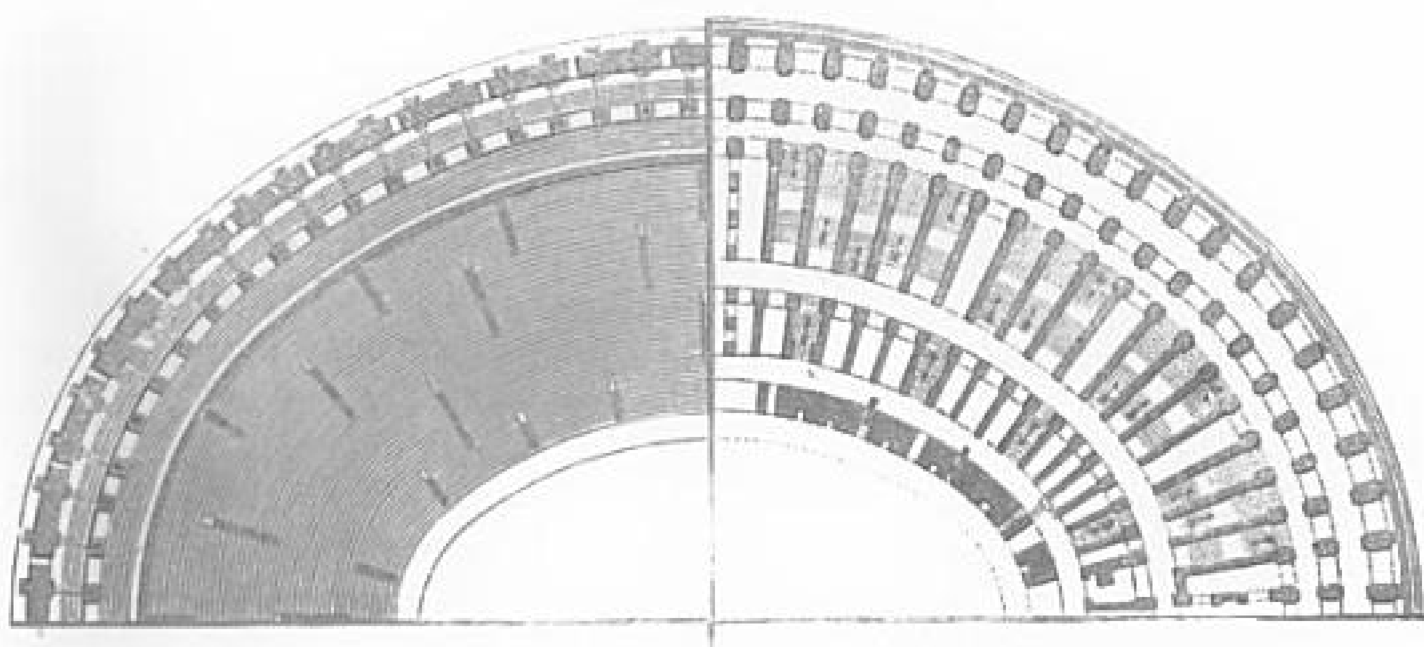
and worthy of all or nearly all the admiration of which it has been the object. Its interior is almost wholly devoid of ornament, or anything that can be called architecture—a vast inverted pyramid. The exterior does not possess one detail which is not open to criticism, and indeed to positive blame. Notwithstanding all this, its mass, its form, and its associations, all combine to produce an effect against which the critic struggles in vain. Still all must admit that the pillars and their entablature are useless and added incongruously, and that the upper story, not being arched like the lower, but solid, and with ugly pilasters, is a painful blemish. This last defect is so striking that, in spite of the somewhat dubious evidence of medals, I should feel inclined to suspect that it was a subsequent addition, and meant wholly for the purpose of supporting and working the great velarium or awning that covered the arena during the representation, which may not have been attempted when the amphitheatre was first erected.

Be this as it may, it certainly now mars very much the effect of the building. The lower stories are of bad design, but this is worse. Notwithstanding these defects, there is no building of Rome where the principle of reduplication of parts, of which the Gothic architects afterwards made so much use, is carried to so great an extent as in this. The Colosseum is principally indebted to this feature for the effect which it produces. Had it, for instance, been designed with only

one story of the height of the 4 now existing, and every arch consequently as wide as 4 of the present ones, the building would have scarcely appeared half the size it now is seen to be. It is true that when close under it, in comparing it with figures moving about or other objects, we might eventually have been able to realize its dimensions. In that case, a true sense of the vast size of the building would have had to be acquired, as is the case with the façade of St. Peter's. Now it forces itself on the mind at the first glance. It is the repetition of arch beyond arch and story on story that leads the mind



266. Elevation and Section of part of the Flavian Amphitheatre at Rome. Scale 50 ft. to 1 in.



267. Quarter-plan of the Seats and quarter-plan of the Basement of the Flavian Amphitheatre. Scale 100 ft. to 1 in.

on, and gives to this amphitheatre its imposing grandeur, which all acknowledge, though few give themselves the trouble to ask how it is produced.

Fortunately, too, though the face of the building is much cut up by the order, the entablatures are unbroken throughout, and cross the building in long vanishing lines of the most graceful curvatures. The oval, also, is certainly more favourable for effect than a circular form would be. A building of this shape may perhaps look smaller than it really is to a person standing exactly opposite either end; but in all other positions the flatter side gives a variety and an appearance of size which the monotonous equality of a circle would never produce.

The length of the building, measured along its greatest diameter, is 620 ft., its breadth 513, or nearly in the ratio of 6 to 5, which may be taken as the general proportion of these buildings, the variations from it being slight, and apparently either mistakes in setting out the work in ancient times, or in measuring it in modern days, rather than an intentional deviation. The height of the 3 lower stories, or what I believe to have been the original building, is 120 ft.; the total height as it now stands 157 ft. The arena itself measures 287 ft. in length by 180 in breadth, and it is calculated that the building would contain 80,000 spectators, though I am inclined to think this number exaggerated. 50,000 or 60,000 would be much nearer the truth, at least according to the data by which space is calculated in our theatres and public places.

Next in extent to this great metropolitan amphitheatre was that of Capua; its dimensions were 558 ft. by 460; its height externally 95 feet. It had 3 stories, designed similarly to those of the Colosseum, but all of the Doric order, and used with more purity than in the Roman example.

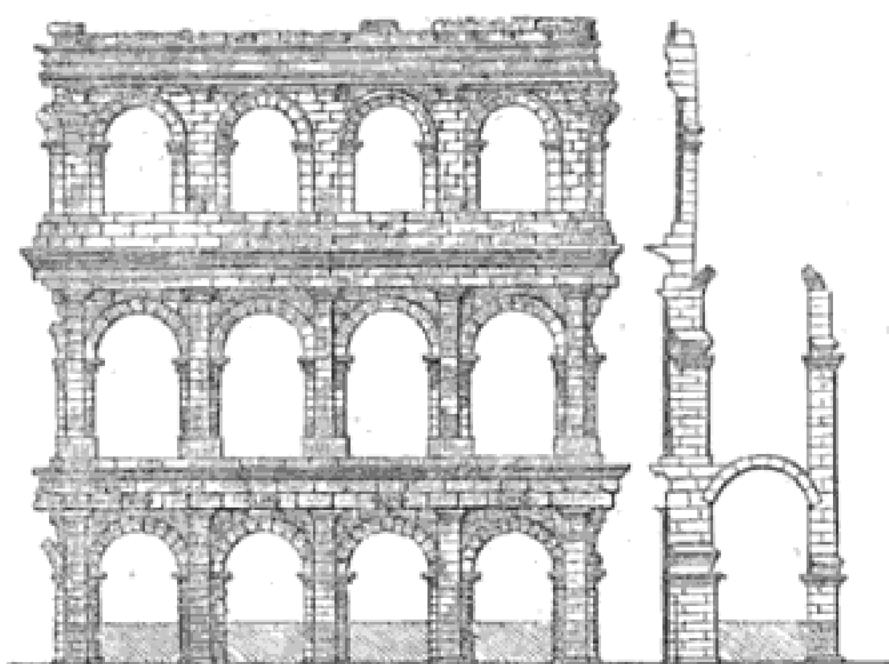
Next in age, though not in size, is that at Nismes, 430 ft. by 378, and 72 in height, in 2 stories. Both these stories are more profusely and more elegantly ornamented with pillars than those of either of the amphitheatres mentioned above. The entablature is however broken over each column, and pediments are introduced on each front. All these arrangements, though showing more care in design, and sufficient elegance in detail, make this building very inferior in grandeur to the two earlier edifices, whose simplicity of outline makes up, to a great extent, for their faults of detail.

A more beautiful example than this is that at Verona. Its dimensions are 502 ft. by 401, and 98 ft. high, in 3 stories beautifully proportioned. Here the order almost entirely disappears, to make way for rustication, showing that it must be considerably more modern than either of the three examples above quoted, though hardly so late as the time of Maximianus, to whom it is frequently ascribed.[1] The arena of this amphitheatre is very nearly perfect, owing to the care taken of it during the middle ages, when it was often used for tournaments and

[1] Maffei, 'Verona Illustrata,' vol. vii. p. 84 *et seq.*

other spectacles; but of its outer architectural enclosure only 4 bays remain, sufficient to enable an architect to restore the whole, but not to allow of its effect being compared with that of more entire examples.

The amphitheatre at Pola, which is of about the same age as that of Verona, certainly belonging to the last days of the Western Empire, presents in its ruin a curious contrast to the other. That at Verona has a perfect arena, and only a fragment of its exterior decoration, while the exterior of Pola is perfect, but not a trace remains of its arena, or of the seats that surrounded it. This is probably owing to their having been of wood, and consequently having either decayed or been burnt. Like that at Verona, it presents all the features of the last stage of transition; the order is still seen, or rather is everywhere suggested, but so concealed and kept subordinate that it does not at all interfere with the general effect. But for these faint traces we should possess in this amphitheatre one specimen entirely emancipated from incongruous Grecian forms, but, as before remarked, Rome perished just on the threshold of the new style.



268. Elevation of Amphitheatre at Verona. Scale 50 ft. to 1 in.

The dimensions of the amphitheatre at Pola are very nearly the same as of that at Nismes, being 436 ft. by 346. It has, however, 3 stories, and thus its height is considerably greater, being 97 ft. Owing to the inequality of the ground on which it is built, the lower story shows the peculiarity of a sub-basement, which is very pleasingly managed, and seems to emancipate it more from conventional forms than its contemporary at Verona. The third story, or attic, is also more pleasing than elsewhere, as it is avowedly designed for the support of the masts of the velarium. The pilasters and all Greek forms are omitted, and there is only a groove over every column of the middle story to receive the masts. There is also a curious sort of open battlement on the top, evidently designed to facilitate the working of the awning, though in what manner is not quite clear. There is still one other peculiarity about the building, inasmuch as the curvature of its lines is broken by 4 projections, intended apparently to contain staircases. They appear, however, to have been subsequent additions, the stones of which they are built being of a different colour from those of the body of the building. In a building so light and open as this one is in its present state there can be no doubt but that the projections give expression and character to the outline, though such additions would go far to spoil any of the greater examples above quoted.

At Otricoli there is a small amphitheatre, 312 ft. by 230, in 2 stories, from which the order has entirely disappeared; it is therefore possibly the most modern of its class, but the great flat pilasters that replace the pillars are ungraceful and somewhat clumsy. Perhaps its peculiarities ought rather to be looked on as provincialisms than as genuine specimens of an advanced style. Still there is a pleasing simplicity about it that on a larger scale would enable it to stand comparison with some of its greater rivals.

Besides these, which are the typical examples of the style, there are the Castrense at Rome, nearly circular, and possessing all the faults and none of the beauties of the Colosseum; one at Arles, very much ruined; and a great number of provincial ones, not only in Italy and Gaul, but in Germany and Britain. Almost all these were principally if not wholly excavated from the earth, the part above ground being the mound formed by the excavation. If they ever possessed any external decoration to justify their being treated as architectural objects, it has disappeared, so that in the state at least in which we now find them they do not belong to the ornamental class of works of which we are now treating.

Baths.

Next in splendour to the amphitheatres of the Romans were their great thermal establishments. In size they were perhaps even more remarkable, and their erection must certainly have been more costly. The amphitheatre, however, has the great advantage in an architectural point of view of being one object, one hall in short, whereas the baths were composed of a great number of smaller parts, not perhaps very successfully grouped together. They were wholly built of brick covered with stucco (except perhaps the pillars), and have, therefore, now so completely lost their architectural features that it is with difficulty that even the most practised architect can restore them to anything like their original forms.

In speaking of the great Thermæ of Imperial Rome, they must not be confounded with such establishments as that of Pompeii for instance. The latter was very similar to the baths now found in Cairo or Constantinople, and indeed in most eastern cities. These are mere establishments for the convenience of bathers, consisting generally of one or two small circular or octagonal halls, covered by domes, and one or two others of an oblong shape, covered with vaults or wooden roofs, used as reception rooms, or places of repose after the bath. These have never any external magnificence beyond an entrance-porch; and although those at Pompeii are decorated internally with taste, and are well worthy of study, their smallness of size and inferiority of design do not admit of their being placed in the same category as those of the capital, which are as characteristic of Rome as her amphitheatres, and are such as could only exist in a capital where the bulk of the people were able to live on the spoils of the conquered world rather than by the honest gains of their own industry.

Agrippa is said to have built baths immediately behind the Pan-

theon, and Palladio and others have amused themselves by restoring them, assuming that building to have been the entrance-hall. Nothing, however, could, I believe, be more unfounded than such an assumption, and no ruins exist sufficiently perfect to enable us to ascertain the exact site of these baths, if indeed they ever existed at all in this situation.

Nero's baths, too, are a mere heap of shapeless ruins, and those of Vespasian, Domitian, and Trajan in like manner are too much ruined for their form, or even their dimensions, to be ascertained with anything like correctness. Those of Titus are more perfect, but the very discrepancies that exist between the different systems upon which their restoration has been attempted show that enough does not remain to enable the task to be accomplished in a satisfactory manner. They owe their interest more to the beautiful fresco paintings that adorn their vaults than to their architectural character. These paintings are invaluable, as being almost the only relics of the painted decoration of the most flourishing period of the Empire, and give a higher idea of Roman art than other indications would lead us to expect.

The baths of Constantine are also nearly wholly destroyed, so that out of the great Thermæ two only, those of Diocletian and of Caracalla, now remain sufficiently perfect to enable a restoration to be made of them with anything like certainty.

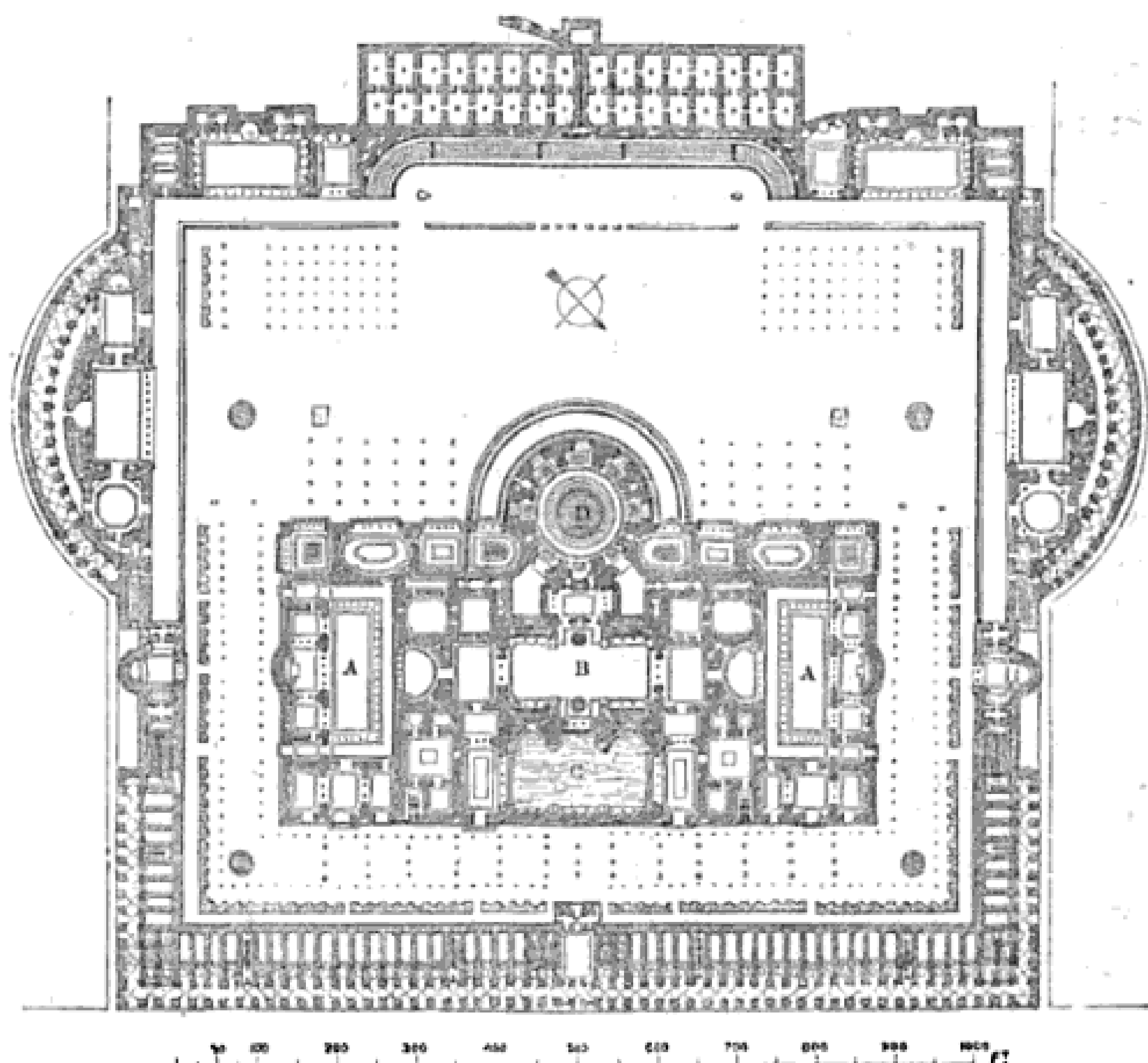
The great hall belonging to the baths of Diocletian is now the Church of Sta. Maria degli Angeli, and has been considerably altered to suit the altered circumstances of its use; and the modern buildings attached to the church have so overlaid the older remains that it is not easy to follow out the complete plan. This is of less consequence, as both in dimensions and plan they are extremely similar to those of Caracalla, which seem to have been among the most magnificent, as they certainly are the best preserved, of these establishments.[1]

The general plan of the whole enclosure of the baths of Diocletian was a square of about 1150 ft. each way, with a bold but graceful curvilinear projection on two sides, containing porticos, gymnasia, lecture-rooms, and other halls for exercise of mind or body. In the rear were the reservoirs to contain the requisite supply of water, and below them the hypocaust or furnace, by which it was warmed with a degree of scientific skill we hardly give credit for to the Romans of that age. Opposite to this and facing the street was one great portico extending the whole length of the building, into which opened a range of apartments meant apparently to be used as private baths, which extend also some way up each side. In front of the hypocaust, facing the north-east, was a semicircus or *theatridium*, 530 ft. long, where youths performed their exercises or contended for prizes.

These parts were, however, merely the accessories of the establish-

[1] These baths have been carefully measured by M. Blouet, who has also published a restoration of them. This is, on the whole, certainly the best account we have of any of these establishments.

ment surrounding the garden, in which the principal building was placed. This was a rectangle 730 ft. by 380, with a projection covered by a dome on the south-western side, which was 167 ft. in diameter externally, and 115 ft. internally. There were two small courts (A A) included in the block, but the whole of the rest appears to have been roofed over, and though, therefore, with about the same dimensions, it virtually covered far more ground, and, looking at the size and grandeur of the parts, it was a building on a far more magnificent scale than our new Houses of Parliament.



269. Baths of Diocletian, as restored by A. Blouet.

In the centre was a great hall (B), almost identical in dimensions with the central aisle of the Basilica of Maxentius already described, being 82 ft. wide by 170 in length, and roofed in the same manner by an intersecting vault in three compartments, springing from 8 great pillars. This opened into a smaller apartment at each end, of rectangular form, and then again into 2 other semicircular halls, forming a splendid suite 460 ft. in length. This central room is generally considered as the *tepidarium*, or warmed apartments, having 4 warm baths opening out of it. On the north-east side was the natatio, or plunge bath (C), probably tepid, a room of nearly the same dimensions and design as the central one. On the side opposite to this was the circular apartment (D), covered by the dome above mentioned, which, from its situation and the openness of its arrangements, must have contained a cold bath or baths. There are

4 other rooms on this side, which seem also to have been cold baths. None of these points have, however, yet been satisfactorily settled, nor the uses of the smaller subordinate rooms; every restorer giving them names according to his own ideas. For our purpose it suffices to know that no groups of state apartments in such dimensions, and wholly devoted to purposes of display and recreation, were ever before or since grouped together under one roof. The taste of many of the decorations would no doubt be faulty, and the architecture shows those incongruities inseparable from its state of transition; but such a collection of stately halls must have made up a whole of greater splendour than we can easily realize from their bare and weather-beaten ruins, or from anything else to which we can compare them. Even allowing for their being almost wholly of brick, and being disfigured by the bad taste inseparable from everything Roman, there is nothing in the world which for size and grandeur can compare with these imperial places of recreation.[1]

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[1] St. George's Hall at Liverpool is the most exact copy in modern times of a part of these Baths. The Hall itself is a reproduction both in scale and design of the central hall of Caracalla's Baths, but improved in detail and design, having five bays instead of only three. With the two courts at each end, it makes up a suite of apartments very similar to those found in the Roman examples. The whole building, however, is less than one-fourth of the size of the central mass of a Roman bath, and therefore gives but little idea of the magnificence of the whole.

CHAPTER V.

TRIUMPHAL ARCHES, TOMBS, AND OTHER BUILDINGS.

CONTENTS.

Triumphal arches were among the most peculiar of the various forms of art which the Romans borrowed from those around them, and used with that strange mixture of splendour and bad taste which characterises all their works.

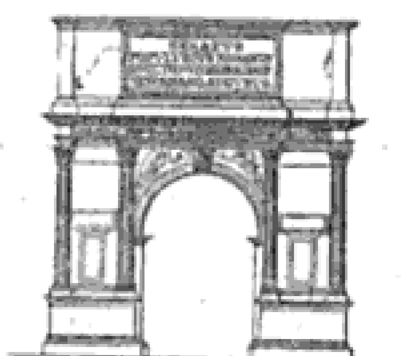
These were in the first instance no doubt borrowed from the Etruscans, as was also the ceremony of the triumph with which they were ultimately associated. At first they seem rather to have been used as festal entrances to the great public roads, whose construction was considered as one of the most important benefits a ruler could confer on his country. There was one erected at Rimini in honour of an important restoration of the Flaminian Way by Augustus; another at Susa in Piedmont, to commemorate a similar act of the same Emperor. Trajan built one on the pier at Ancona, when he restored that harbour, and another at Beneventum, when he repaired the Via Appia, represented in the woodcut here given (No. 270). It is one of the best preserved as well as most graceful of its class in Italy. The arch



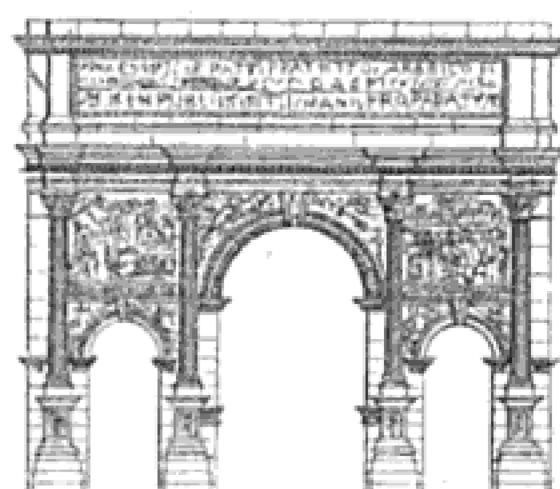
270. Arch of Trajan at Beneventum. From a plate in Gailabaud's Architecture.

of the Sergii at Pola in Istria seems also to have been erected for a like purpose. That of Hadrian at Athens, and another built by him at Antinoë in Egypt, were monuments merely commemorative of the benefits which he had conferred on those cities by the architectural works he had erected within their walls. By far the most important application of these gateways, in Rome at least, was to commemorate a triumph which may have passed along the road over which the arch was erected, and perhaps in some instances it may have been erected beforehand, for the triumphal procession to pass through, of which it would remain a memorial.

The Arch of Titus at Rome is well known for the beauty of its detail, as well as from the extraordinary interest which it derives from having been erected to commemorate the conquest of Jerusalem, and consequently representing in its bassi-rilievi the spoils of the Temple. From the annexed elevation, drawn to the usual scale, it will be seen that the building is not large, and it is not so well proportioned as that at Beneventum, represented in the last woodcut, the attic being overpoweringly high. The absence of sculpture on each side of the arch is also a defect, for the real merit of these buildings is their being used as frameworks for the exhibition of sculptural representations of the deeds they were erected to commemorate.


271. Arch of Titus at Rome. Scale 50 ft. to 1 in.

In the later days of the Empire 2 side-arches were added for foot-passengers, in addition to the carriage-way in the centre. This added much to the splendour of the edifice, and gave a greater opportunity for sculptural decoration than the single arch afforded. The Arch of Septimius Severus, represented to the same scale in woodcut No. 272, is perhaps the best specimen of the class. That of Constantine is very similar and in most respects equal to this—a merit which it owes to most of its sculptures being borrowed from earlier monuments.


272. Arch of Septimius Severus. Scale 50 ft. to 1 in.

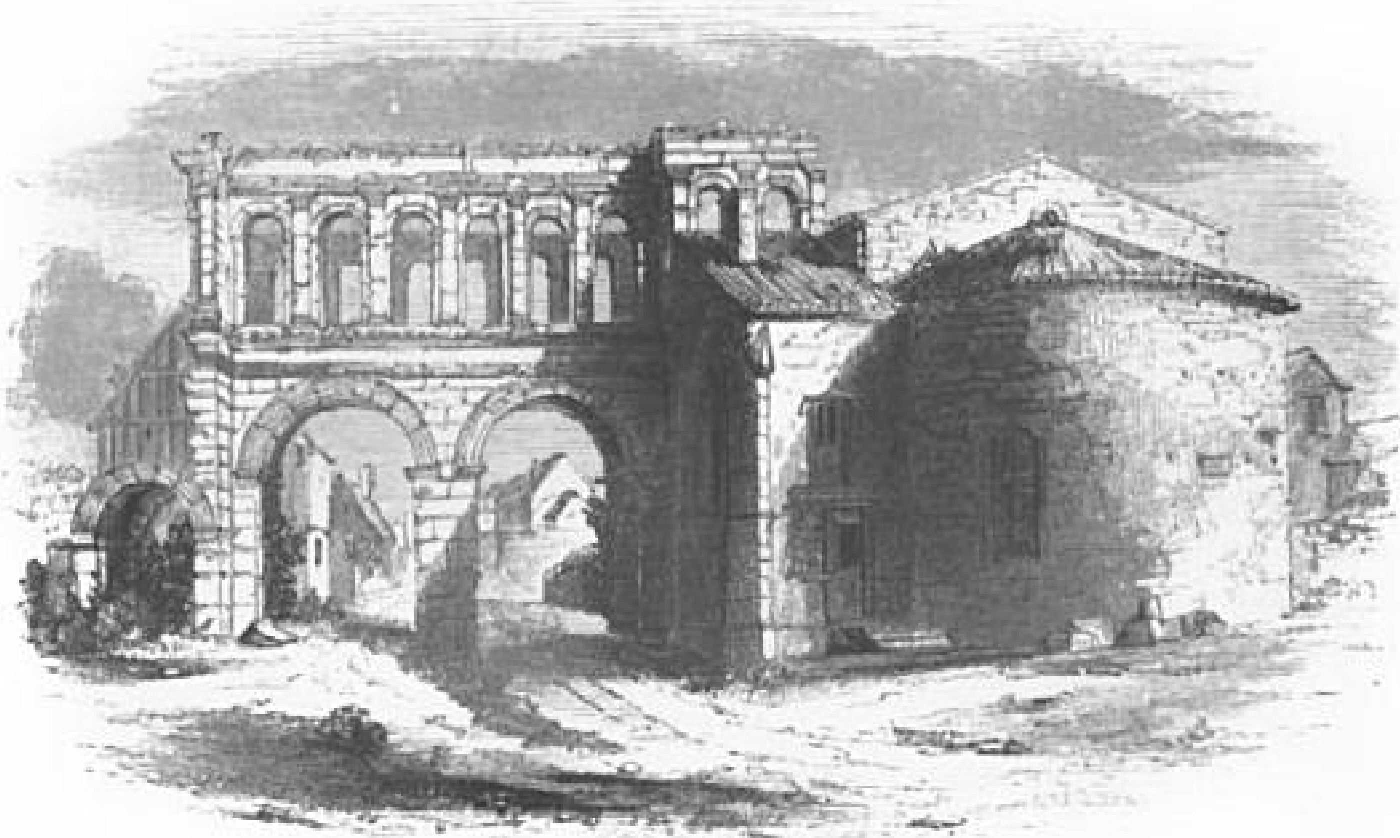
More splendid than either of these is the arch at Orange. We do not know by whom it was erected, or even in what age: it is, however, certainly very late in the Roman period, and shows a strong tendency to treat the order as entirely subordinate, and to exalt the plain masses into that importance which characterises the late transitional period. Unfortunately its sculptures are so much destroyed by time and violence that it is not easy to speak with certainty as to their age; but more might be done than has hitherto been effected to illustrate this important monument.

At Rheims there is an arch which was probably much more magnificent than this. When in a perfect state it was 110 ft. in width, and

had 3 openings, the central one 17 ft. wide by 40 ft. high, and those on each side 10 ft. in width, each separated by 2 Corinthian columns. From the style of the sculpture it certainly was of the last age of the Roman Empire, but, having been built into the walls of the city, has been so much ruined that it is difficult to say what its original form may have been.

Besides these there is in France a very elegant single-arched gateway at St. Rémi, similar to and probably of the same age as that at Beneventum; another at Cavallon, and one at Carpentras, each with one arch. There is also one with two similar arches at Langres; and one, the Porta Nigra, at Besançon, which shows so complete a transition from the Roman style that it is difficult to believe that it does not belong to the renaissance.

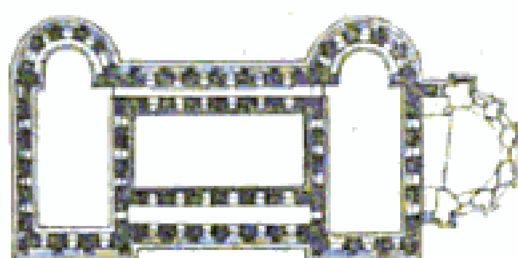
There still remains in France another class of arches, certainly not triumphal, but so similar to those just mentioned that it is impossible to separate the one from the other. The most important of these are two at Autun, called respectively the Porte Arroux and the Porte St. André, a view of which is given in woodcut No. 271. Each of these



273. Porte St. André at Autun. From Laborde's Monumens de la France.

has two central large archways for carriages, and one on each side for foot-passengers. Their most remarkable peculiarity is the light arcade or gallery that runs across the top of them, replacing the attic of the Roman arch, and giving a degree of lightness combined with height that these never possessed. These gates were certainly not meant for defence, and the apartment over them could scarcely be applied to utilitarian purposes; so that we may, I believe, consider it as a mere ornamental appendage, or as a balcony for display on festal occasions. It appears, however, to offer a better hint for modern arch-builders than any other example I know of.

Even more interesting than these gates at Autun is that called the Porta Nigra at Trèves; for though far ruder in style and coarser in detail, as might be expected from the remoteness of the province where it is found, it is far more complete. Indeed it is the only example of its class which we possess in anything like its original state. Its front consists of a double archway surmounted by an arcaded gallery, like the French examples. Within this is a rectangular court which seems never to have been roofed, and beyond this a second double archway similar to the first. At the ends of the court, projecting each way beyond the face of the gateway and the gallery surmounting it, are 2 wings 4 stories in height, containing a series of apartments in the form of small basilicas, all similar to one another, and measuring about 55 ft. by 22. It is not easy to understand how these were approached, as there is no stair and no place for one. Of course there must have been some mode of access, and perhaps it may have been on the site of the apse, shown in the plan (woodcut No. 274), which was added when the building was converted into a church in the middle ages. These apartments were probably originally used as courts or chambers of justice, thus realising, more nearly than any other European example I am acquainted with, the idea of a gate of justice.



274. Plan of Porta Nigra at Trèves. Scale, 100 ft. to 1 in.



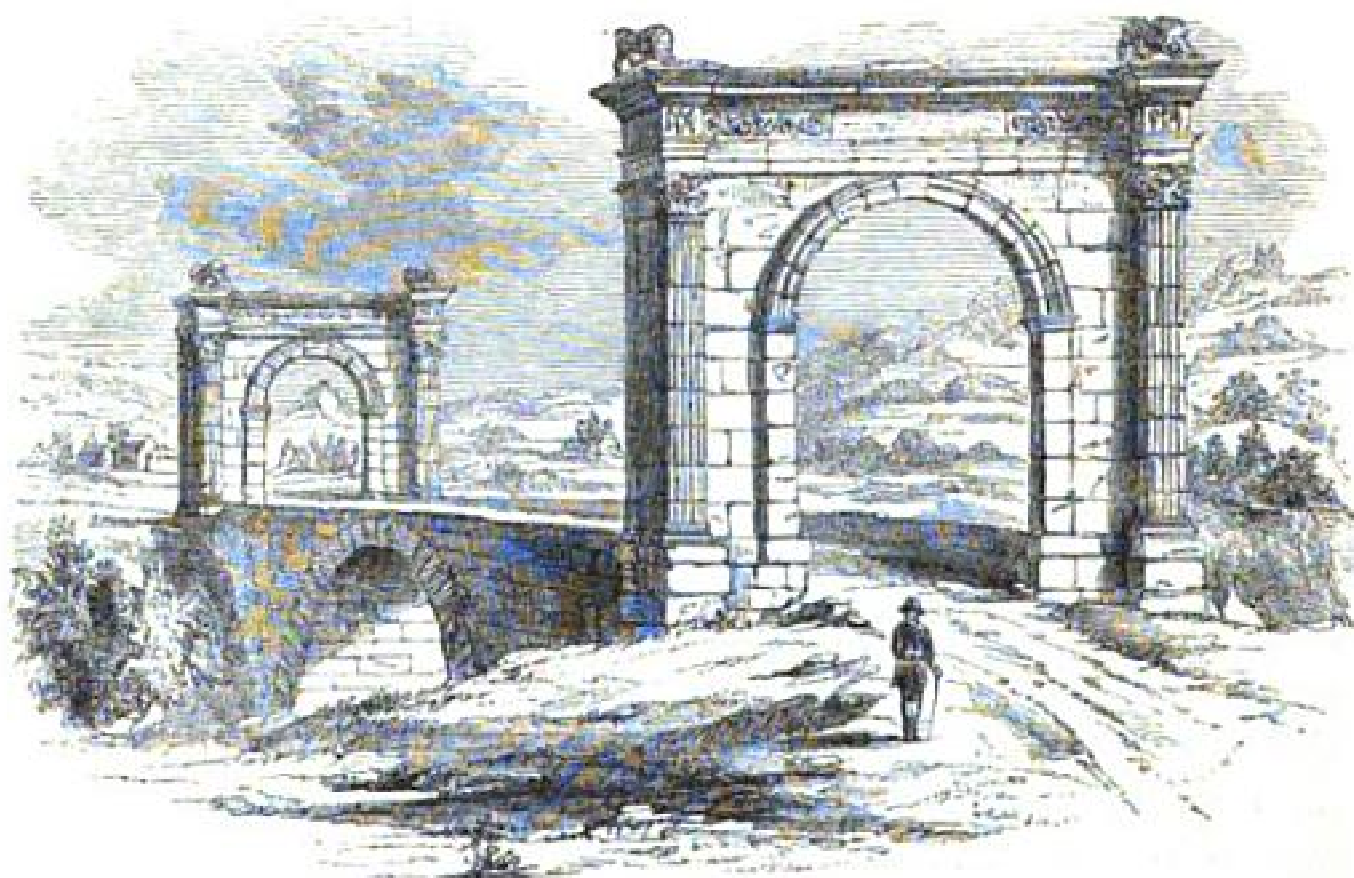
275. View of the Porta Nigra at Trèves.

Notwithstanding its defects of detail, there is a variety in the outline of this building and a boldness of profile that render it an extremely pleasing example of the style; and though exhibiting many of the faults of the design of the Colosseum, it possesses all that repetition of parts and Gothic feeling of design which give such value to its dimensions, though these are far from contemptible, the building being 115 ft. wide by 95 in height to the top of the wings.

There probably were many similar gates of justice in the province, but all have perished, unless we except those at Autun just described. I am convinced that at that place there were originally such wings as those at Trèves, and that the small church, the apse of which is seen on the right hand (woodcut 273), stands upon the foundations of one of these. A slight excavation on the opposite side would settle this

point at once. If it could be proved that these gateways at Autun had such lateral adjuncts, it would at once explain the use of the gallery over the arch, as a passage connecting the 2 wings together, which otherwise looks so unmeaning.

Another form also is that of an arch at the entrance of a bridge, generally bearing an inscription commemorative of its building. Its purpose is thus closely connected with that of the arches before mentioned, which commemorate the execution of roads. Most of the great bridges of Italy and Spain were so adorned; but unfortunately they have either been used as fortifications in the middle ages, or removed in modern times to make way for the increased circulation of traffic. That built by Trajan on his noble bridge at Alcantara in Spain is well known; and there exists a double-arched bridge at Saintes, in the south of France. The most elegant and most perfect specimen, however, of this class is that of St. Chamas in Provence, represented in the woodcut No. 276. It consists of 2 arches, one at each end of the bridge, of



276. Bridge at Chamas. From Laborde's Monumens de la France.

singular elegance of form and detail. Although it bears a still legible inscription, it is uncertain to what age it belongs, probably that of the Antonines; and I should account for the purity of its details by the Greek element that pervades the south of France. Whether this is so or not, it is impossible not to admire not only the design of the whole bridge with its 2 arches, but the elegance with which the details have been executed.

Used in this mode as commencements of roads, or entrances to bridges, or as festal entrances to unfortified towns, there are perhaps no monuments of the second class more appropriate or more capable of architectural expression than these arches, though all of them have been more or less spoiled by an incongruous order being applied to them. Used, however, as they were in Rome, as monuments of victory, with-

out even an excuse for a passage through them, not only is the taste of such erections more than questionable, but the mode in which they were cut up by broken cornices and useless columns, on tall pedestals and other trivial details, deprived them of that largeness of design which is the true merit and great characteristic of Roman art, while they totally missed that exquisite elegance with which the Greeks knew so well how to dignify even the most trivial objects.

PILLARS OF VICTORY.

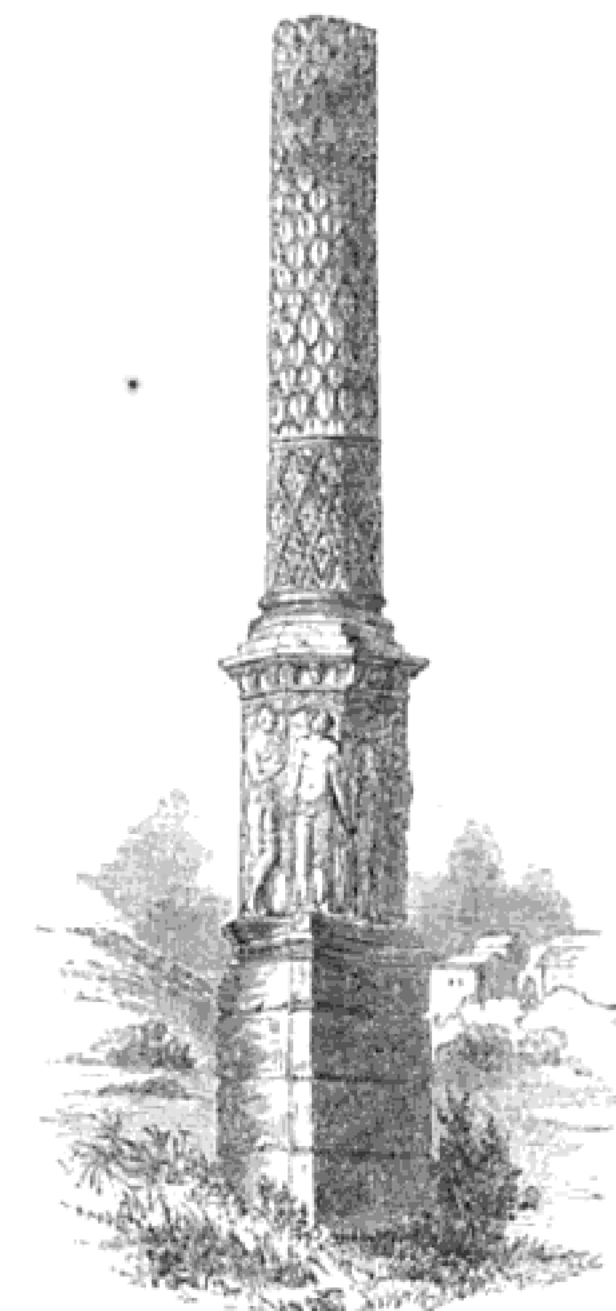
The pillars of Victory are a class of monuments which have been already mentioned in speaking of Buddhist architecture, and to which we must again revert when treating of the Saracenic art, for they seem to have been adopted by Romans and Moslems whenever they settled in countries where they had been used by the earlier inhabitants. No people ever used them so clumsily as the Romans, or with so little true appreciation of the purpose for which they were designed.

The "Columna Rostrata," or that erected to celebrate naval victories, was, so far as we can judge from representations (for no perfect specimen exists), one of the ugliest and clumsiest forms of pillar it is possible to conceive.

Of those of Victory, one of the most celebrated is that erected by Diocletian at Alexandria. A somewhat similar one exists at Arsinoë, erected by Alexander Severus; and a third at Mylassa in Caria. All these are mere Corinthian pillars of the usual form, and with the details of those used to support entablatures in porticos. However beautiful these may be in their proper place, they are singularly unappropriate and ungraceful when used as minarets or single columns.

There are two in Rome not quite so bad as these, both being of the Doric order. Had the square abacus in these been cut to a round form, and ornamented with an appropriate railing, we might almost forget their original, and fancy that they really were round towers with balconies at the top. The great object of their erection was to serve as vehicles for sculpture, though, as we now see them, or as they are caricatured at Paris and elsewhere, they are little more than instances of immense labour bestowed to very little purpose. In the original use of these pillars they were placed in small courts surrounded by open porticos, whence the spectator could at two or perhaps at three different levels examine the sculpture at his leisure and at a convenient distance, while the absurdity of the pillar supporting nothing was not apparent, from its not being seen from the outside. This arrangement is explained in woodcut No. 256, which is a section through the basilica of Trajan, showing the position of his column, not only with reference to that building, but to the surrounding colonnade. The same was almost certainly the case with the pillar of Marcus Aurelius, which, with slight modifications, seems to have been copied from that of Trajan; but even in the most favourable situations no monuments can be less worthy of admiration or of being copied than these.

A far better specimen of this class is that at Cussi, near Beaune, in France. It probably belongs to the time of Aurelian, but it is not known either by whom it was erected or what victory it was designed to celebrate; still that it is a pillar of victory is undoubted; and its resemblance to pillars raised with the same object in India is quite striking.[1]



277. Column at Cussi. From Laborde's Monumens de la France.

The arrangement of the base serving as a pedestal for 8 statues is not only elegant but appropriate. The ornament which covers the shaft takes off from the idea of its being a mere pillar, and at the same time is so subdued as not to break the outline or interfere with constructive propriety.

The capital, of the Corinthian order, is found in the neighbourhood used as the mouth of a well. In its original position it no doubt had a hole through it, which being enlarged suggested its application to its present ignoble purpose, the hole being no doubt intended either to receive or support the statue or emblem that originally crowned the monument, but of that no trace now remains.



278. Supposed Capital of Column at Cussi.

There cannot be a more natural mode of monumental expression than that of a simple upright stone set up by the victors to commemorate their prowess and success. Accordingly steles or pillars erected for this purpose are found everywhere, and take shapes as various as the countries where they stand, or as the people who erected them; but nowhere was their true architectural expression so mistaken as in Rome, where, by perverting a feature designed for one purpose to a totally different use, an example of bad taste was given till then unknown, though in our days it has become not uncommon.

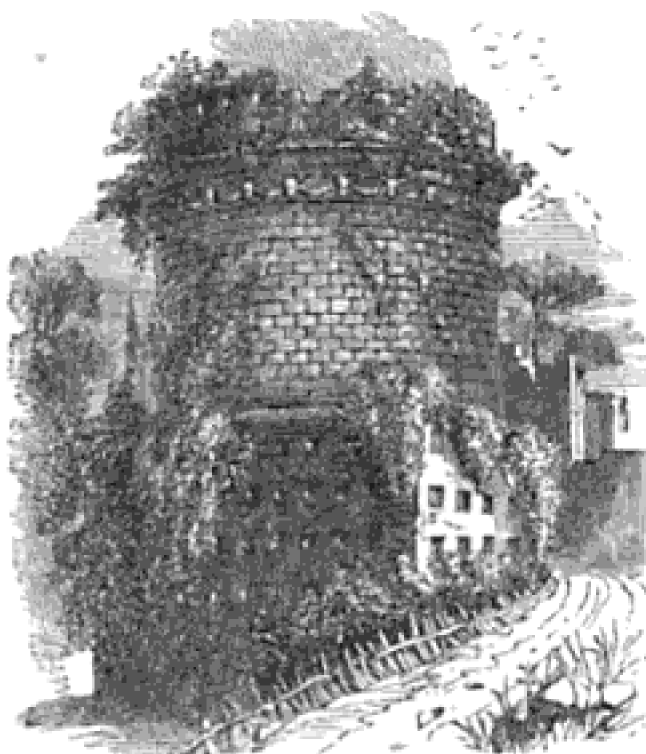
Tombs.

In that strange collection of the styles of all nations which, mingled together, makes up the sum of Roman art, nothing strikes the architectural student with more astonishment than the number and importance of their tombs. If the Romans are of Indo-Germanic origin, as is

[1] Compare Woodcut No. 77.

generally assumed, they are the only people of that race among whom tomb-building was not utterly neglected. The importance of the tombs among the Roman remains proves one of two things. Either a considerable proportion of Etruscan blood was mixed up with that of the dominant race in Rome, or the fierce and uncivilized Romans, having no art of their own, were led blindly to copy that of the people among whom they were located.

Of the tombs of Consular Rome nothing remains except perhaps the sarcophagus of Scipio; and it is only on the eve of the Empire that we meet with the well-known one of Cæcilia Metella, the wife of Crassus, which is not only the best specimen of a Roman tomb now remaining to us, but the oldest building of the imperial city of which we have an authentic date. It consists of a bold square basement about 100 ft. square,[1] which was originally ornamented in some manner not now intelligible. From this rose a circular tower about 94 ft. in diameter, of very bold masonry, surmounted by a frieze of ox-skulls with wreaths joining them, and a well-profiled cornice: 2 or 3 courses of masonry above this seem to have belonged to the original work; and above this, almost certainly, in the original design rose a conical roof, which has perished. The tower having been used as a fortress in the middle ages, battlements have been added to supply the place of the roof, and it has been otherwise disfigured, so as to detract much from its beauty as now seen. Still we have no tomb of the same importance so perfect, nor one which enables us to connect the Roman tombs so nearly with the Etruscan. The only addition in this instance is that of the square basement or podium, though even this was not unknown at a much earlier period, as for instance in the tomb of Aruns (woodcut No. 237). The exaggerated height of the circular base is also remarkable. Here it rises to be a tower instead of a mere circular base of stones for the earthen cone of the original sepulchre. The stone roof which probably surmounted the tower was a mere reproduction of the original earthen cone.


279. Tomb of Cæcilia Metella.

Next in age and importance was the tomb of Augustus in the Campus Martius. It is now so completely ruined that it is extremely difficult to make out its plan, and those who drew and restored it in former days were so careless in their measurement that it is difficult to ascertain even its dimensions: it appears however to have consisted of a circular basement about 300 ft. in diameter, and about 60 ft. in

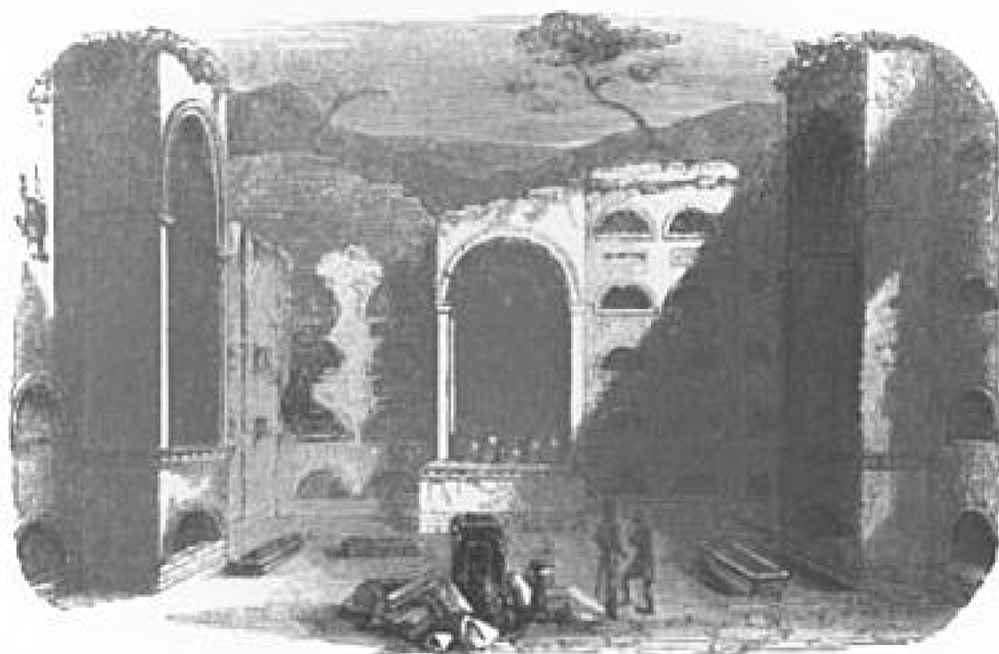
[1] I am extremely uncertain about the dimensions of this building: these are the best I can find.

height, adorned with 12 large niches. Above this rose a cone of earth as in the Etruscan tombs, not smooth like those, but divided into terraces, which were planted with trees. We also learn from Suetonius that Augustus laid out the grounds around his tomb and planted them with gardens for public use during his lifetime. More like the practice of a true Mogul in the East than the ruler of an Indo-Germanic people in Europe.

This tomb, however, was far surpassed, not only in solidity but in splendour, by that which Hadrian erected for himself on the banks of the Tiber, now known as the Mole of Hadrian, or more frequently the Castle of St. Angelo. The basement of this great tomb was a square about 340 ft. each way, and about 75 ft. high. Above this rose a circular tower 235 ft. in diameter and 140 in height. The whole was crowned probably by a dome, or at least by a curvilinear roof, which with its central ornament must have risen to a height of not less than 300 ft. The circular or tower-like part of this splendid building was ornamented with columns, but in what manner restorers have not quite been able to agree; some making 2 stories, both with pillars, some, one of pillars and the upper one of pilasters. It would require more correct measurement than we have to enable us to settle this point, but it seems probable that there was only one range of columns on a circular basement of some height surmounted by an attic of at least equal dimensions. The order might have been 70 ft., the base and attic 38 ft. each.

Internally the mass was nearly solid, having only 2 small sepulchral chambers, one above the other, in the centre. There may, however, have been a circular apartment under the dome, though this is hardly probable.

Besides these there was another class of tombs in Rome, called columbaria, generally oblong or square rooms below the level of the



2-0. Columbarium near the Gate of S. Sebastian, Rome.

ground, the walls of which were pierced with a great number of little pigeonholes or cells just of sufficient size to receive an urn containing the ashes of the body, which had been burnt according to the usual Roman mode of disposing of the dead. Externally of course they had

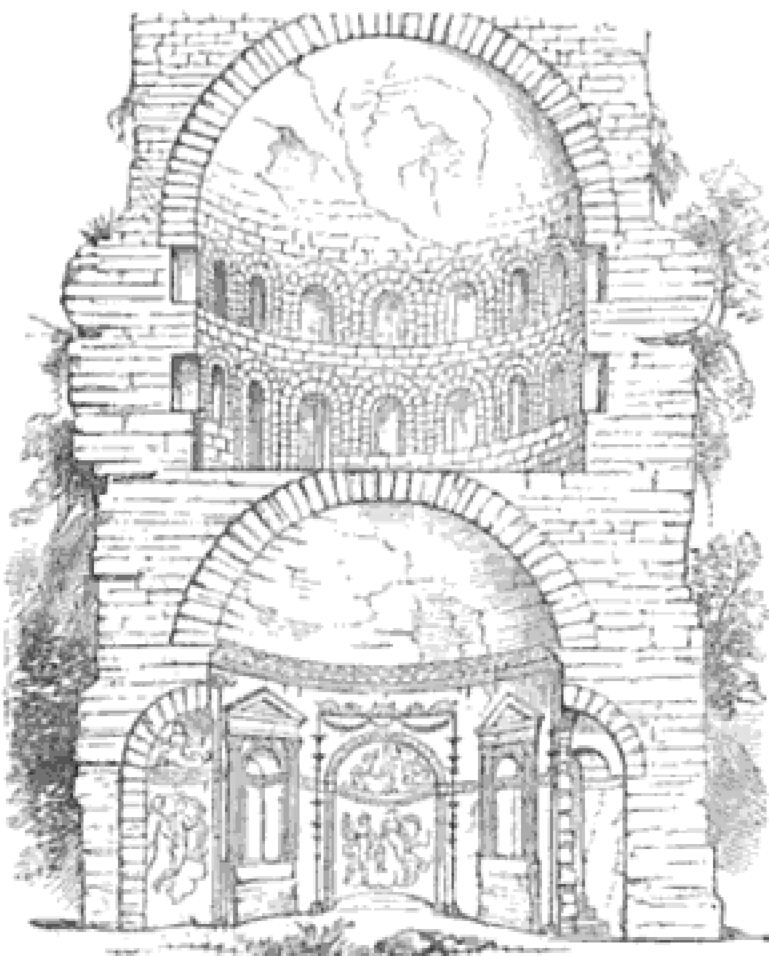
no architecture, though some of the more important family sepulchres of this class were adorned internally with pilasters and painted ornaments of considerable beauty.

In the earlier ages of the Roman empire these two forms of tombs characterised with sufficient clearness the two races, each with their distinctive customs, which made up the population of Rome. Long before its expiration the two were fused together so thoroughly that we lose all trace of the distinction, and a new form of tomb arose compounded of the two older, which became the typical form with the early Christians, and from them passed to the Saracens and other eastern nations.

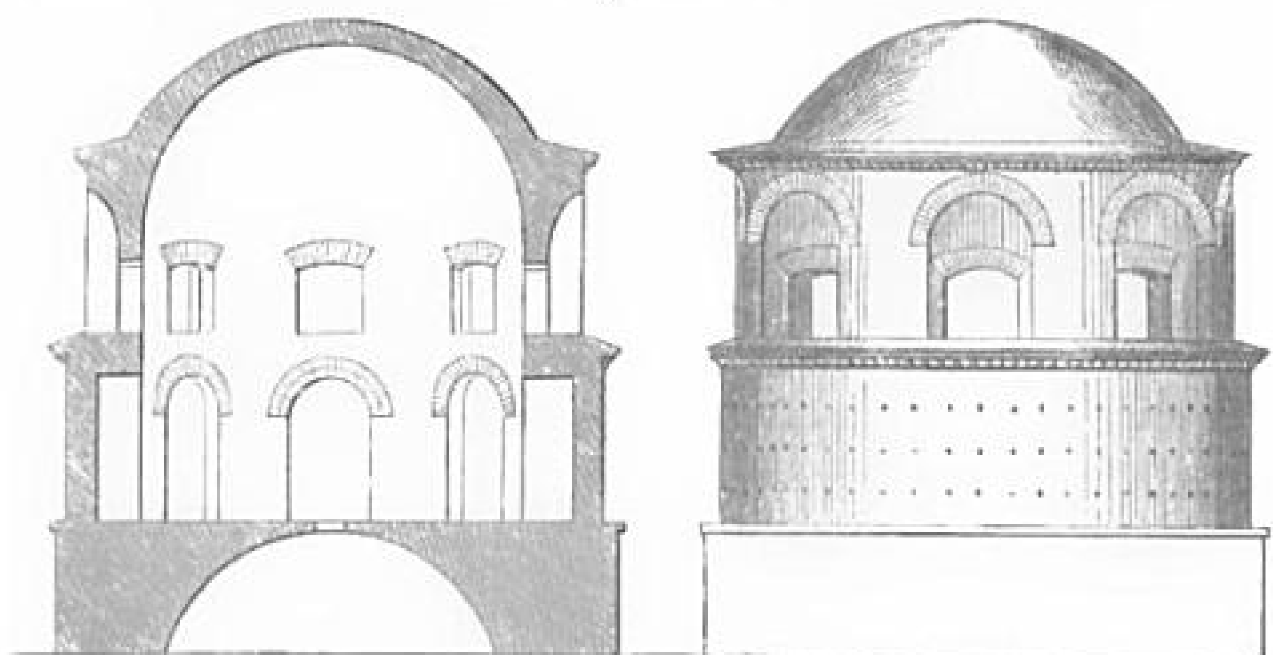
The new form of tomb retained externally the circular form of the Pelasgic sepulchre, though constructive necessities afterwards caused it to become polygonal. Instead however of being solid, or nearly so, the walls were only so thick as were necessary to support the dome, which became the universal form of roof of these buildings.

The sepulchres of Rome have as yet been far too carelessly examined to enable us to trace all the steps by which the transformation took place, but as a general rule it may be stated that the gradual enlargement of the central circular apartment is almost a certain test of the age of a tomb: till at last, before the age of Constantine, they became in fact representations of the Pantheon on a small scale, almost always with a crypt or circular vault below the principal apartment.

One of the most curious transitional specimens is that found near San Vito, represented in the woodcut No. 281. Here, as in all the earlier specimens, the principal apartment is the lower in the square basement. The upper, which has lost its decoration, has the appearance of being hollowed out of the frustum of a gigantic Doric column, or rather out of a solid tower like the central one of the tomb of Aruns (woodcut No. 237). Shortly after the age of this sepulchre the lower apartment became a mere crypt, and in such examples as those of the sepulchres of the Cornelia and Tossia families we have merely miniature Pantheons somewhat taller in proportion, and with a crypt. This is still more remarkable in a building called the Torre dei Schiavi, which has had a portico attached to one side, and in other respects looks very like a direct imitation of that celebrated temple. It seems certainly, however, to have been built for a tomb.


281. Section of Sepulchre at San Vito. No scale.

Another tomb, very similar to that of the Tossia family, is called that of Sta. Helena, the mother of Constantine. If not hers, at least it belongs to the last days of the Empire, and may be taken as a fair specimen of the tombs of the age and of the class. It is a vast transition from that of Cæcilia Metella, though in the same direction as all the changes introduced by the Romans, the tendency of which was constantly transforming an external into an internal architecture.



282. Section and Elevation of Tomb of Sta. Helena, Rome. No scale.

It consists of a basement about 100 ft. square, containing the crypts. On this stands a circular tower in two stories. In the lower story is a circular apartment about 66 ft. in diameter, surrounded by 8 niches; in the upper the niches are external, and each pierced with a window. Its dimensions being nearly the same as those of the tomb of Cæcilia Metella, it affords an excellent opportunity of comparing the two extremes of the series, and of contrasting the early Roman with the early Christian tomb.

The typical example of a sepulchre of this age is the tomb or baptistery of Sta. Costanza, the daughter of Constantine. In this building the pillars that adorned the exterior of such a mausoleum, for instance, as that of Hadrian, are introduced internally. Externally the building never can have had much ornament. But the breaks between the lower aisle and the central compartment, pierced with the clerestory, must have had a very pleasing effect—more so at all events than the clumsy attempts that were made at this age to adorn buildings by ill-understood applications of the Grecian orders. In this example there is still shown a certain degree of timidity, which does not afterwards reappear. The columns are coupled and far more numerous than they need have been, and they are united by a fragment of an entablature, as if the architect were afraid to place his vault direct on the capitals. Still, notwithstanding these defects, it is a pleasing and singularly instructive example of a completed transformation, just what we miss in those secular buildings for which the Christians had no use.

Another building, which now goes by the name of the Baptistery of Constantine, was also undoubtedly a place of sepulture, though whether it is rightly ascribed to Constantine, and was intended by him

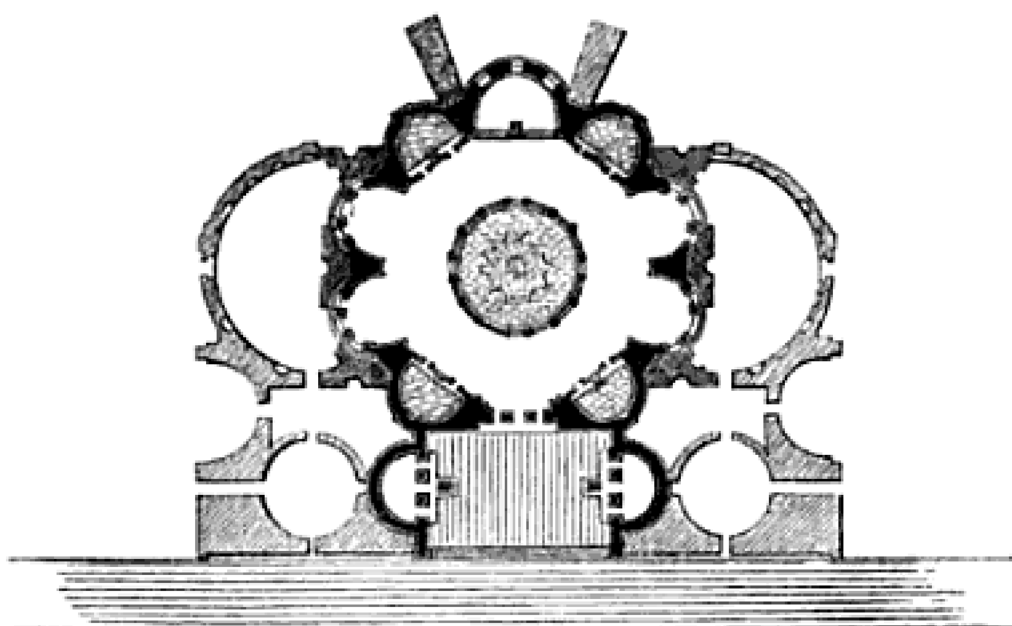
for his own tomb, may be questioned. Here the central apartment, never having been intended to support a dome, is of a far lighter construction, an upper order of pillars being placed on the lower, with merely a light architrave and frieze running between the two orders. The external walls were slight in construction and octagonal in plan. We must not in this place pursue any further the subject of the transition of style, as we have already trespassed within the pale of Christian architecture and passed beyond the limits of heathen art. So gradual is the change, and so long prepared, that it is impossible to draw the line exactly where the separation takes place between the one and the other.

TEMPLE OF MINERVA MEDICA.

One important building remains to be mentioned before leaving this part of the subject. It commonly goes by the name of the Temple of Minerva Medica, though this is certainly a misnomer. Recently it has become the fashion to assume that it was the hall of some bath; no building of that class, however, was known to exist in the neighbourhood, and it is extremely improbable that any should be found outside the Servian walls in this direction; besides that it wants all the necessary accompaniments of such an establishment.

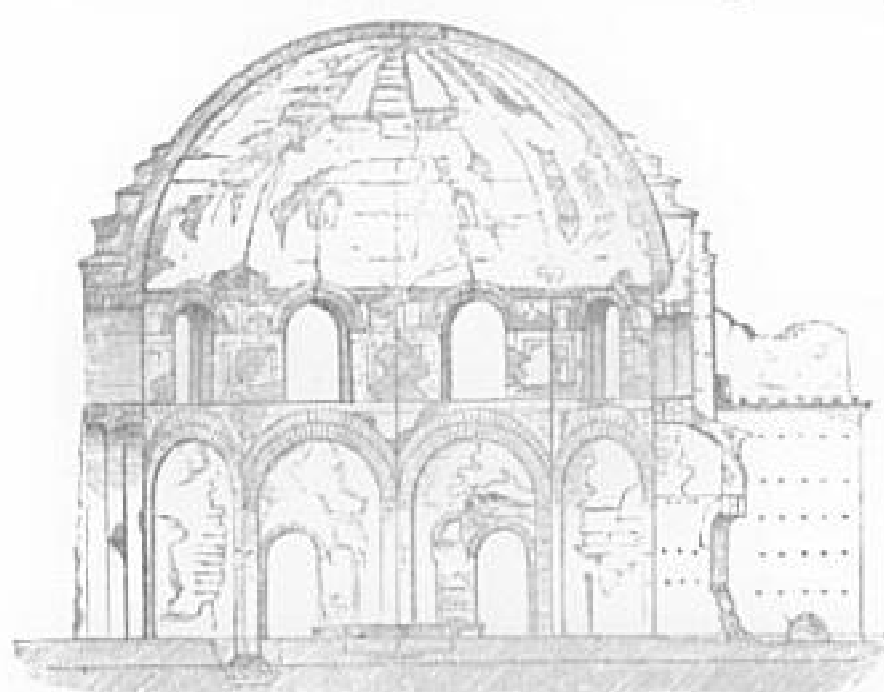
I have placed it with the tombs because its site is one that would justify such a supposition, and its form is just such as would be applicable to that purpose and to no other. I by no means wish to insist positively on this opinion, but I know of no more probable supposition. It certainly belongs to the last days of the Empire at Rome, if indeed it be not a Christian building, which I am very much inclined to believe it is, for, on comparing it with the Baptistery of Constantine and the tomb of Sta. Costanza, it shows a considerable advance in construction on both these buildings, and a greater similarity to San Vitale at Ravenna, and other buildings of Justinian's time, than to anything else now found in Rome.

As will be seen from the plan and section (woodcuts Nos. 283 and 284), it has a dome, 80 ft. in diameter, resting on a decagon of singularly light and elegant construction. Nine of the compartments contain niches which give great room on the floor, as well as great variety and lightness to the general design. Above this is a clerestory of 10 well-proportioned windows, which give light to the building, perhaps not in so effective a manner as the one eye of the



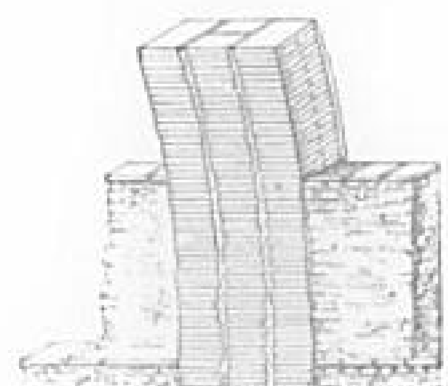
283. Plan of Minerva Medica at Rome. From Isabelle's Edifices Circulaires. Scale, 100 ft. to 1 in.

Pantheon, but by a far more convenient arrangement to keep out the elements for a people who did not possess glass. So far as I know, all the domed buildings erected by the Romans up to the time of Constantine, and indeed long afterwards, were circular in the interior, though, like the temple built by Diocletian at Spalatro, they were sometimes octagonal externally. This, however, is a polygon both internally and on the outside, and the mode in which the dome is placed on the polygon shows the first rudiments of the pendentive system, which was afterwards carried to such perfection by the Byzantine architects, but is nowhere else to be found in Rome. It probably was for the purpose of somewhat diminishing the difficulties of this construction that the architect adopted a figure with 10 instead of 8 sides.



284. Section of Minerva Medica. Scale, 50 ft. to 1 in.

This, too, is, I believe, the first building in which buttresses are applied so as to give strength to the walls exactly at the point where it is most wanted. By this invention the architect was enabled to dispense with nearly one half of the amount of materials that was thought necessary when the dome of the Pantheon was constructed, and which he must have employed had he copied that building. Besides this the dome was ribbed with tiles, as shown in woodcut No. 285, and the space between the ribs filled in with inferior, perhaps lighter masonry, banded together at certain heights by horizontal courses of tiles when necessary.



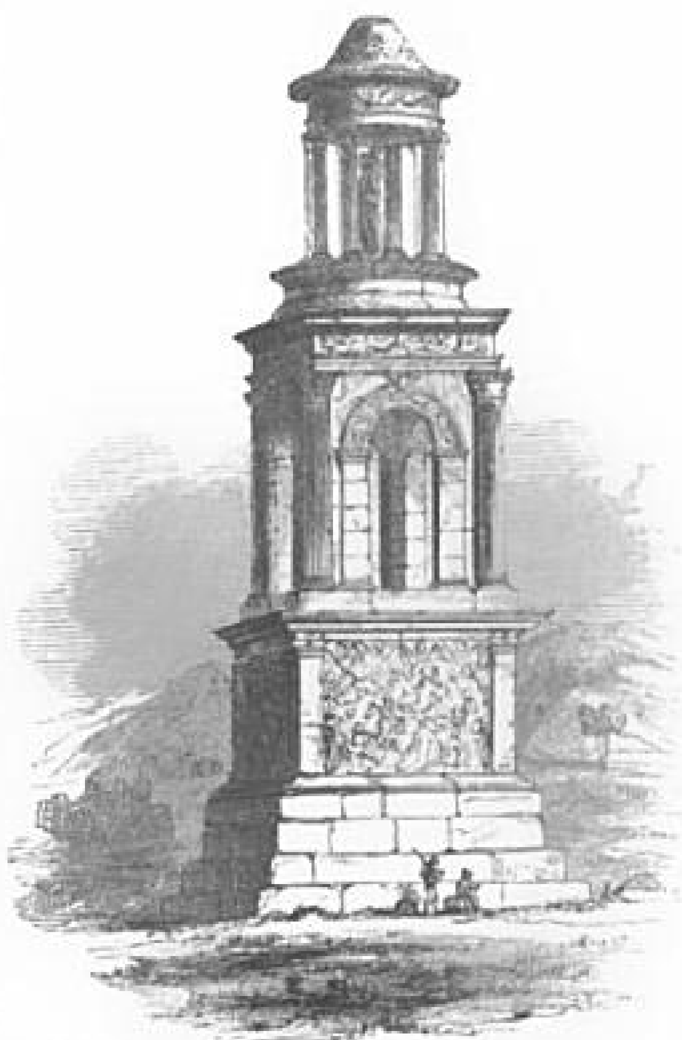
285. Rib of the Roof of the Minerva Medica at Rome.

Besides the lightness and variety which the base of this building derives from the niches, it is 10 ft. higher than its diameter, which gives to it that proportion of height to width, the want of which is the principal defect of the Pantheon. It is not known what the side erections are which are usually shown in the ground-plans, nor even whether they are coëval with the main central edifice. I suspect they have never been very correctly laid down.

Taking it altogether, the building is certainly, both as concerns construction and proportion, by far the most scientific of all those in ancient Rome, and in these respects as far superior to the Pantheon as it is inferior to that temple in size. Indeed there are few inventions of the middle ages that are not attempted here or in the Temple of

Peace—but more in this than in the latter; so much so, indeed, that I cannot help believing that it is much more modern than is generally supposed.

As might be expected from our knowledge of the races that inhabited the European provinces of the Roman empire, there are very few specimens of tombs of any importance to be found in them. One very beautiful example exists at St. Rémi, represented in the annexed woodcut (No. 286). It probably, however, can hardly be called a tomb, but rather a cenotaph or a monument, erected, as the inscription on it tells us, by Sextus and Marcus, of the family of the Julii, to their parents, whose statues appear under the dome of the upper story. There is nothing funereal either in the inscription or the form, nor anything to lead us to suppose that the bodies of the parents repose beneath its foundation.



286. Tomb at St. Rémi. From Laborde's Monumens de la France.

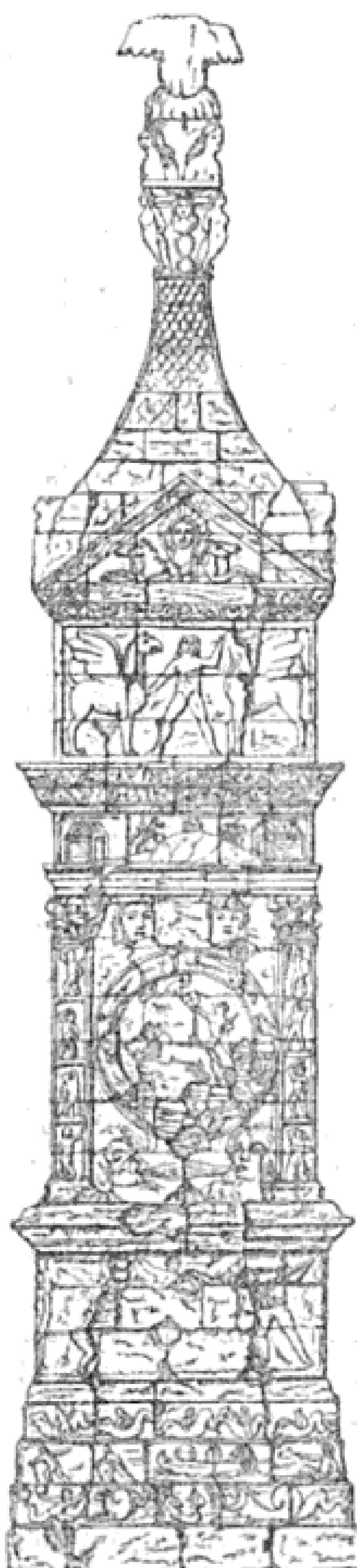
The lower portion of this monument is the square basement which the Romans always added to the Etruscan form of tomb. Upon this stands a story pierced with an archway in each face, with a 3-quarter pillar of the Corinthian order at every angle. The highest part is a circular colonnade, a miniature copy of that which we know to have once encircled Hadrian's Mole.

The open arrangement of the arches and colonnade, while it takes off considerably from the tomb-like simplicity becoming such buildings, adds very much to the lightness and elegance. Altogether the building has much more of the aspiring character of Christian art than of the more solid and horizontal forms which were characteristic of the style then dying out.

Another monument of very singular and exceptional form is found at Igel, near Trèves, in Germany. It is so unlike anything found in Italy, or indeed anything of the Roman age, that, were its date not perfectly known from the inscription upon it, one might rather be inclined to ascribe it to the age of Francis I. than to the latter days of the Roman Empire.

The form is graceful, though the pilasters and architectural ornaments seem somewhat misplaced. It is covered with sculpture from top to bottom. These, however, as is generally the case with Roman funeral monuments, have no reference to death, nor to the life or actions of the person to whom the monument is sacred, but are more

like the scenes that might be painted on a wall or ornamental stele anywhere. The principal object in the face represented in the woodcut is the sun, but the subjects are varied in each face, and, though much time-worn, they still give a very perfect idea of the rich ornamentation of the monuments of the last age of the Empire.



287. Monument at Igel, near Trèves. From Schmidt's Antiquities of Trèves.

Eastern Tombs.

This scarcity of tombs in the western part of the Roman empire is to a great extent made up for, in the east. The history of the tombs erected under the Roman rule in that part of the world is as yet so little known that it is not easy either to classify or to describe them; and as nearly all those which have been preserved are cut in the rock, it is sometimes difficult—as with other rock-cut objects all over the world—to understand the form of building from which they were copied.

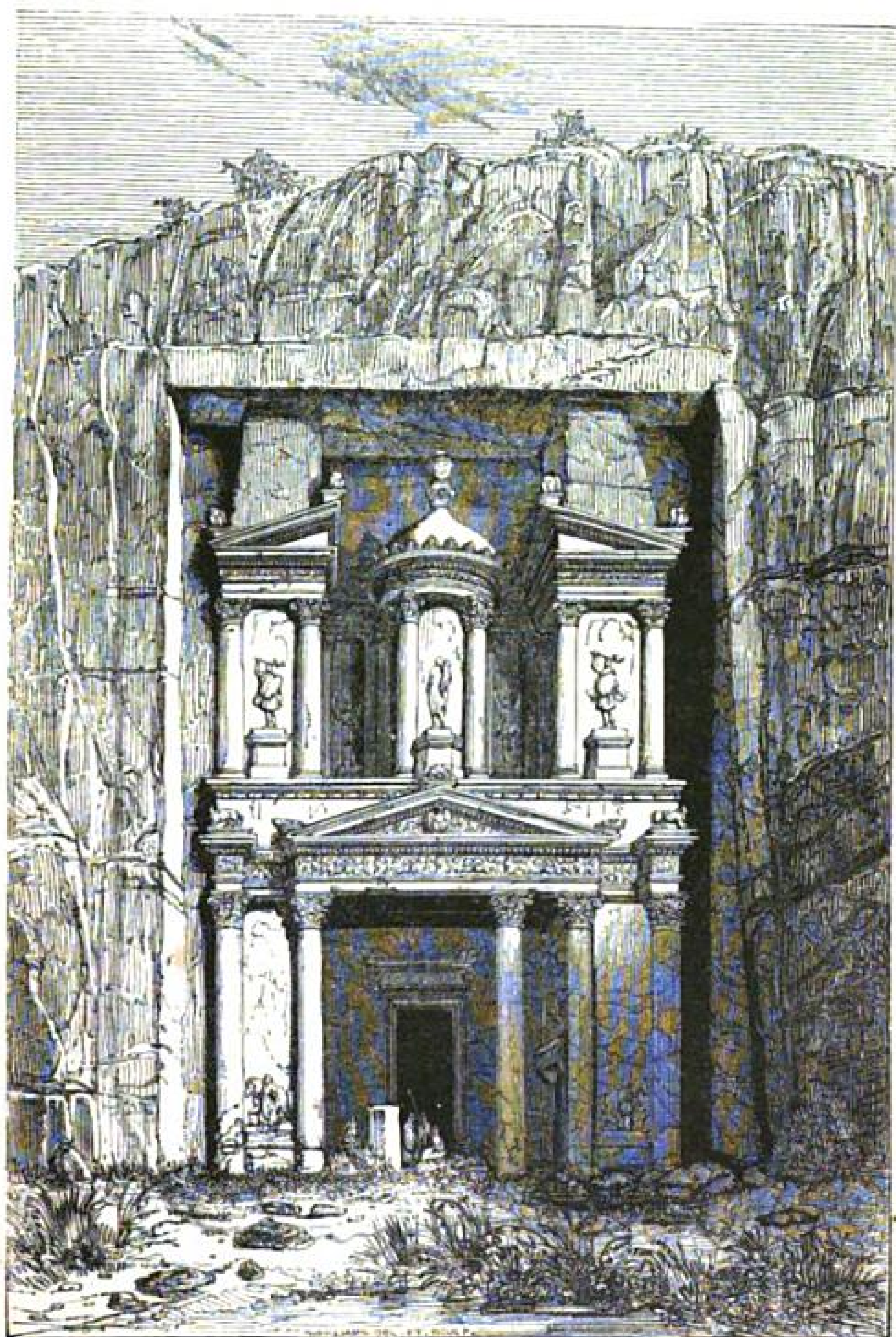
The 3 principal groups of the tombs of the Roman epoch are those of Petra, Cyrene, and Jerusalem. Though many other important tombs exist in those countries, they are so little known that they must be passed over for the present.

From the time when Abraham was laid in the cave of Machpelah until after the Christian era, we know that burying in the rock was not the exception but the general practice among the nations of this part of the East. So far as can be known, the example was set by Egypt, which was the parent of much of their civilization. In Egypt the façades of their rock-cut tombs were—with the solitary exception of those of Beni Hassan[1]—ornamented so simply and unobtrusively as rather to belie than to announce their internal magnificence. All the oldest Asiatic tombs seem to have been mere holes in the rock, wholly without architectural decorations.

We have seen, however, how the Persian kings copied their palace façades to adorn their last resting-places, and how about the same time in Lycia the tomb-cutters copied, first their own wooden structures, and afterwards the architectural façades, which they had learned from the Greeks how to construct. But it was not

[1] See p. 226, and woodcut 161.

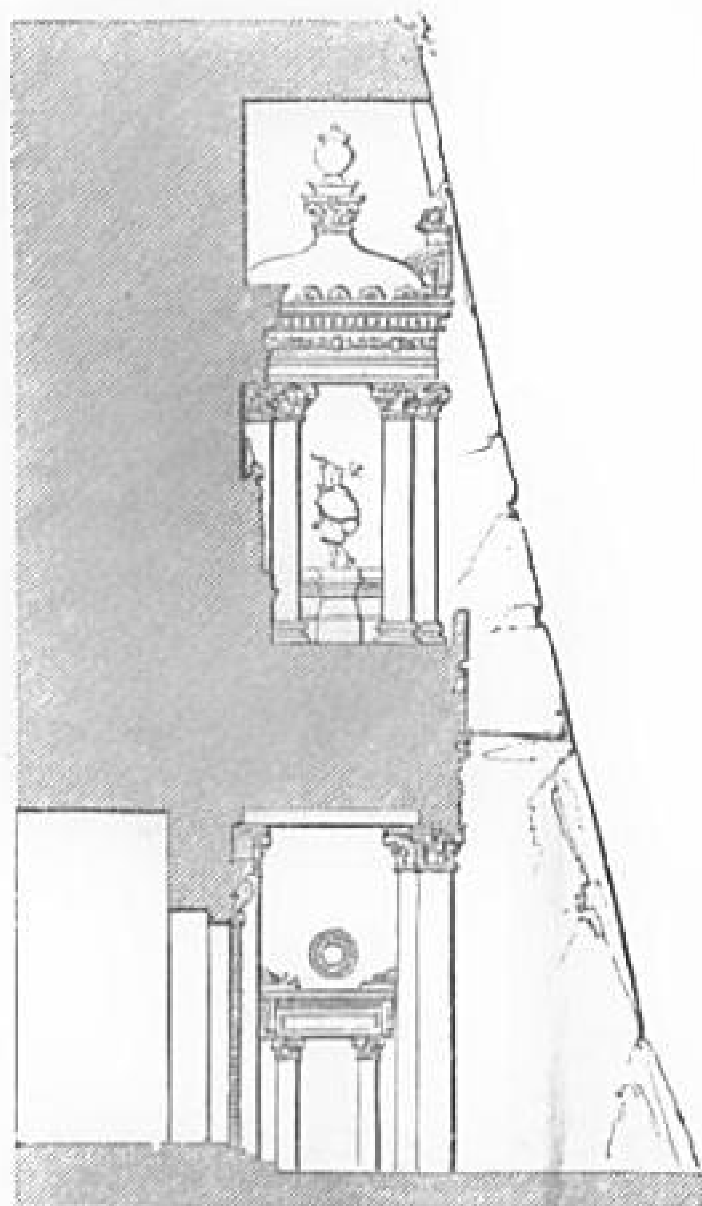
till the Roman period that this species of magnificence extended to the places enumerated above. To such an extent did it prevail at Petra as to give to that now deserted valley the appearance of a petrified city of the dead.



28*. Khasné. From Laborde's Petra and Mount Sinai.

The typical and most beautiful tomb of this place is that called the Khasné or Treasury of Pharaoh—represented in elevation and section in the annexed woodcuts. As will be seen, it consists of a square basement, adorned with a portico of 4 very beautiful Corinthian pillars, surmounted by a pediment of low Grecian pitch. Above this

are 3 very singular turrets, whose use and application it is extremely difficult to understand. The central one is circular, and is a well-understood sepulchral form, the use of which, if it had been more important, or if it stood alone, would be intelligible enough; but what are the side turrets? If one might hazard so bold a conjecture, I would suggest that the original from which this is derived was a 5-turreted tomb, like that of Aruns (woodcut No. 237), or that of Alyattes at Sardis, which in course of time has become translated into so foreign a shape as this; but where are the intermediate forms? and by whom and when was this change effected? Before we form such theories as this, it will be well to ask the question whether all these buildings really are tombs? Most of them undoubtedly are so; but may not the name *el Deir*, or the convent, applied by the Arabs to one of the principal rock-cut monuments of Petra, be after all the true designation? Are none of them, in short, cells for priests, like the *viharas* found in India?[1] All those who have hitherto visited these spots have assumed at once that everything cut in the rock must be a tomb, but I am much mistaken if the rule is so general as is supposed.



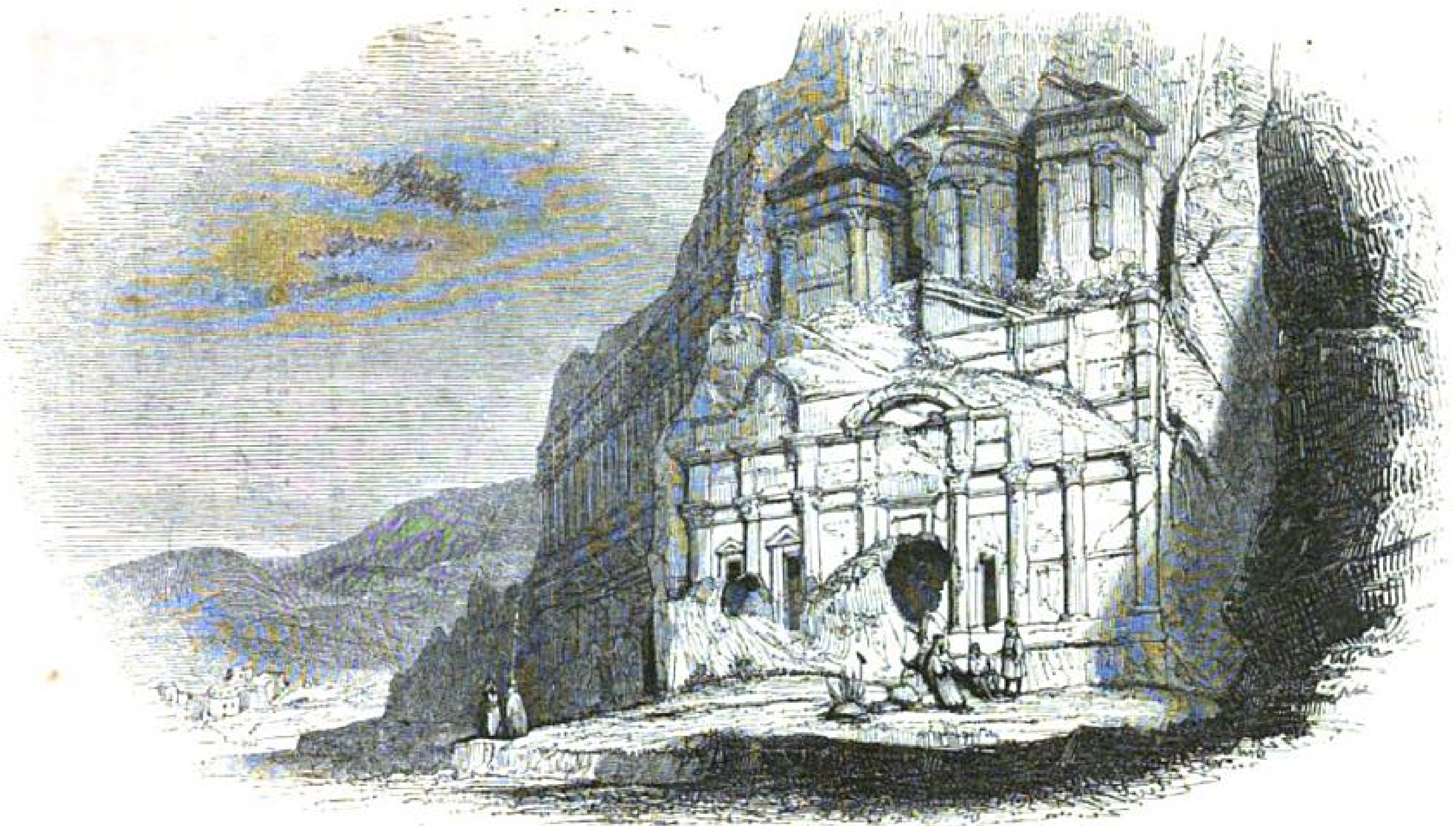
289. Section of Tomb at Khasné. From Laborde's Mount Sinai, p. 175.

To return however to the Khasné. Though all the forms of the architecture are Roman, the details are so elegant and generally so well designed as almost to lead to the suspicion that there must have been some Grecian influence brought to bear upon it. The masses of rock left above the wings show how early a specimen of its class it is, and how little practice its designers could have had in copying in the rock the forms of their regular buildings.

A little further within the city is found another very similar in design to this, but far inferior in detail and execution, showing at least a century of degradation, but at the same time an adaptation to rock-cut forms not found in the earlier examples.

A third is that above alluded to, called *el Deir*. This is the same in general outline as the two former—of an order neither Greek nor Roman, but with something like a Doric frieze over a very plain Corinthian capital. In other respects it presents no new feature

[1] See p. 30 *et seqq.*



290. Corinthian Tomb, Petra. From Laborde's Sinai, p. 186.

except the apparent absence of a door, and altogether it seems, if finished, to deserve its name less than either of the other two.

Perhaps the most singular object among these tombs is the flat façade with 3 stories of pillars one over the other—slightly indicated in the left of the Corinthian tomb in the last woodcut (No. 290). It is like the proscenium of some of the more recent Greek theatres. If it was really the frontispiece to a tomb, it was totally unsuitable to the purpose, and is certainly one of the most complete misapplications of Greek architecture ever made.

Generally speaking, the interiors of these buildings are so plain that travellers have not cared either to draw or measure them; one, however, represented in the annexed woodcut, is richly ornamented,



291. Rock-cut interior at Petra. From Laborde's Sinai, p. 198.

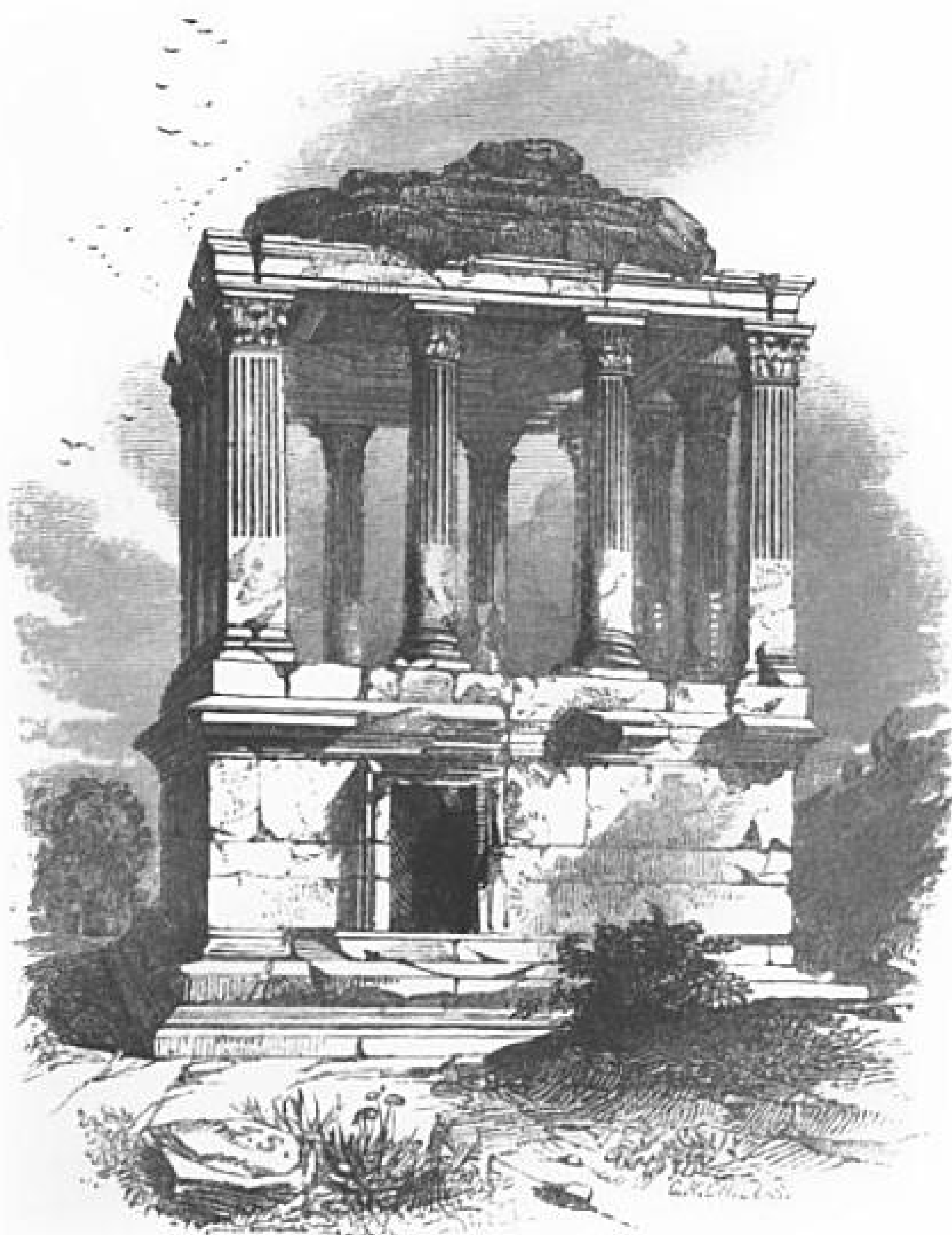
and, as far as can be judged from what is published, is as unlike a tomb as it is like a *vihara*. But, as before remarked, they all require re-examination before the purpose for which they were cut can be pronounced upon with any certainty.

The next group of tombs is that at Jerusalem. These are undoubtedly all sepulchres. By far the greater number of them are wholly devoid of architectural ornament. To the north of the city is a group known as the tombs of the kings, with a façade of a corrupt Doric order, similar to some of the latest Etruscan tombs.[1] It is now

[1] M. de Saulcy has recently attempted to prove that these tombs are those of the kings of Judah from David downwards. Their architecture is undoubtedly later than the Christian era, and the slab, which he calls the cover of the sarcophàgus of David, is certainly more modern than the time of Constantine.

very much ruined. A somewhat similar façade, but of a form more like the Greek Doric, in the Valley of Jehoshaphat, bears the name of the Sepulchre of St. James, and near this is a square tomb cut out of the rock, but standing free, and with a pyramidal roof, which is unlike anything else seen either here or in these parts. The most remarkable, however, is that called the Tomb of Absalom, consisting of a square basis, adorned with 4 Ionic columns on each face, and above this a low circular tower, which seems to have been intended to bear either a small domed building like the central one on the upper part of the Khasné, or a simple dome. The present somewhat anomalous termination is in masonry, and so unlike everything else of its class that we know of, that we must consider it as a modern improvement.

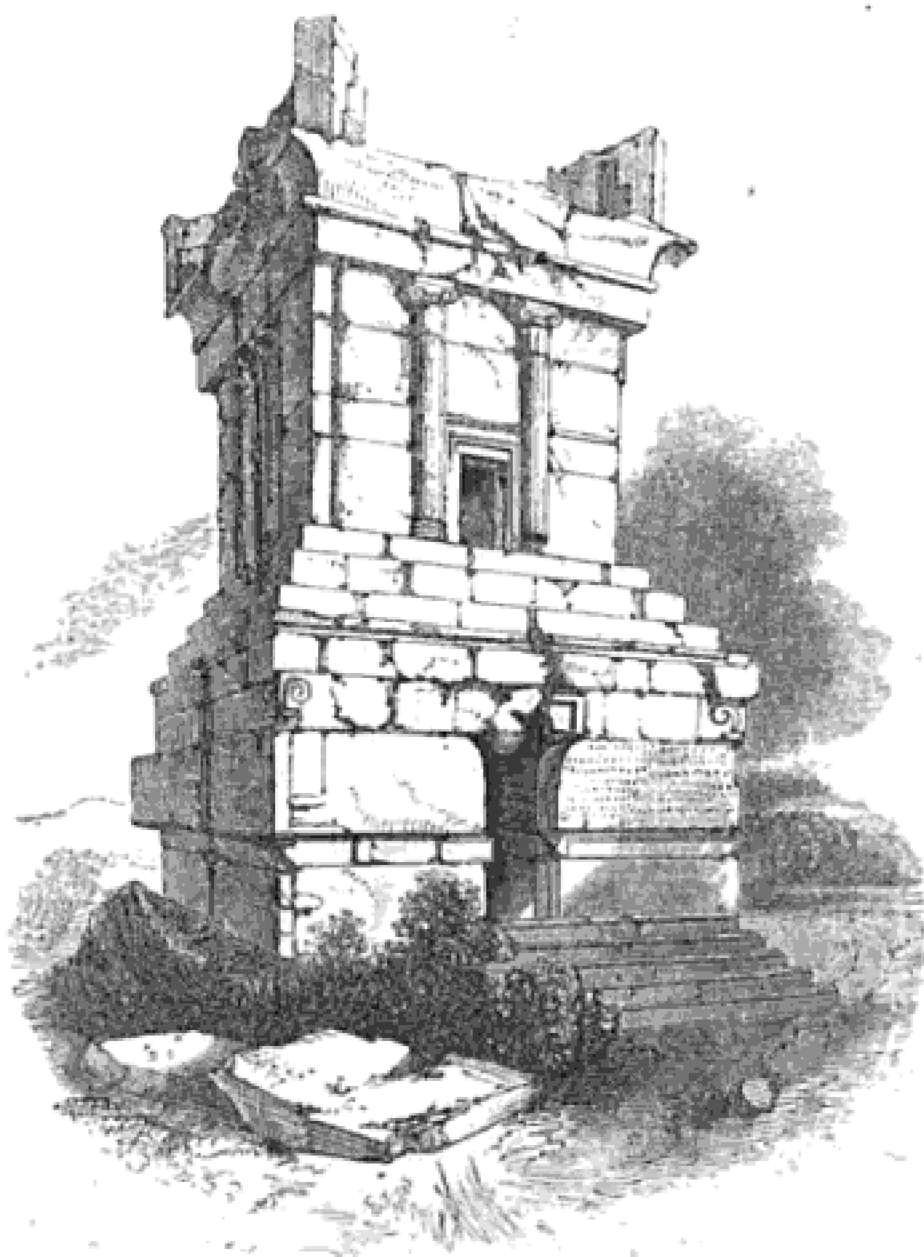
The third group is that of Cyrene, on the African coast. Notwithstanding the researches of Admiral Beechey and of M. Pacho, they are still much less perfectly known to us than they should be. Their number is immense, and they almost all have architectural façades, generally consisting of 2 or more columns between pilasters, like the grottos of Beni Hassan, or the tomb of St. James at Jerusalem. Many of them show a powerful reminiscence of Greek taste, though they are



292. Tomb at Mylassa.

for the most part undoubtedly of Roman date, and the paintings with which many of them are still adorned are certainly in Roman taste. None of them have such splendid architectural façades as the Khasné at Petra; but the number of tombs which are adorned with architectural features is greater than in that city, and, grouped as they are together in terraces on the hill side, they constitute a necropolis among the most striking of the ancient world. Altogether the group somewhat resembles that at Castel d'Asso, but is more extensive and far richer in external architecture.

Time has not left us a single built tomb in all these places, though there can be little doubt but that they once were numerous. Almost the only tomb of this class constructed in masonry known to exist, which in many respects is perhaps the most interesting of all, is found in Asia Minor, at Mylassa in Caria. In form it is something like the free standing rock-cut examples at Jerusalem. As shown in the woodcut (No. 292), it consists of a square base, which supports 12 columns, 8 of which support a dome, the other 4 merely completing the square. The dome itself is constructed in the same manner as all the Jaina domes are in India, being of the class illustrated by the diagrams in woodcuts No. 47 to 50, and, though ornamented with Roman details, is so unlike anything else ever built by that people, and so completely and perfectly what we find re-appearing 10 centuries afterwards in the far east, that we are forced to conclude that it belongs to a style once prevalent and long fixed in these lands, though it now stands as the sole representative of its class.



293. Tomb at Dugga. From a drawing by F. Catherwood.

Another example somewhat similar stands at the opposite extreme of what may be called the Roman Eastern world, from the locality of which we last spoke, at Dugga, near Tunis, in Africa. This, too, consists of a square base, taller than in the last example, and surmounted by 12 Ionic columns, but here merely used as ornaments

to support a cornice, the profile of which bears a remarkable resemblance to Egyptian forms. It was terminated apparently by a pyramid in steps, of which nothing now remains but the 4 head-stones of the corners, which serve to give character to the angles, which the simple pyramid so used always wants.

This and the St. Rémi tomb are perhaps the two most elegant examples of tombs which antiquity has left us, and those which might be most profitably studied for modern purposes.

Domestic Architecture.

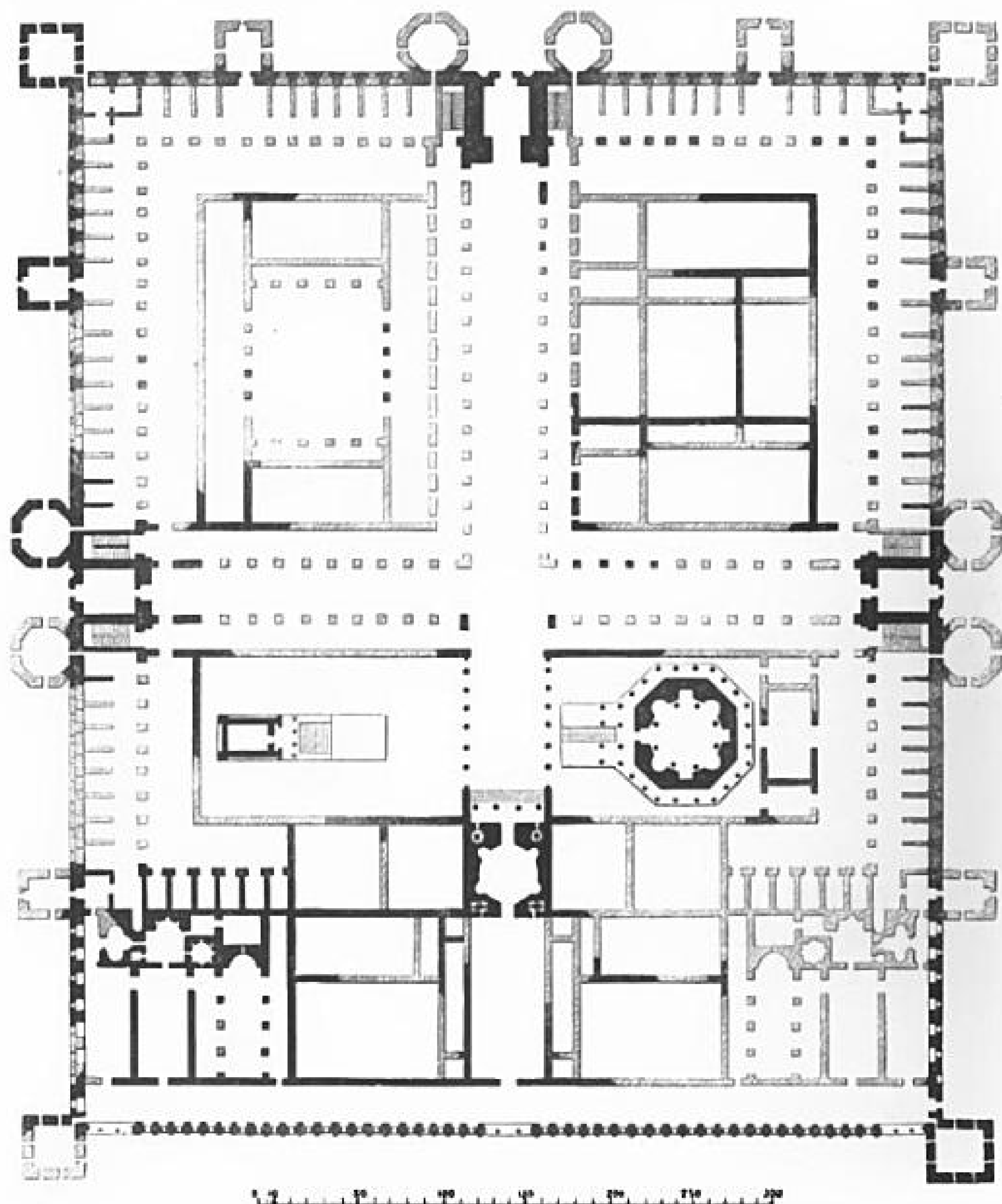
We know, not only from the descriptions and incidental notices that have come down to us, but also from the remains found at Pompeii and elsewhere, that the private dwellings of the Romans were characterised by that magnificence and splendour which we find in all their works, accompanied, probably, with more than the usual amount of bad taste. No palace except that at Spalatro has been preserved to our day, nor any building of such a class as to come under the head of domestic art; still, so much is to be learnt from what does remain, that it is impossible to pass over the subject altogether.

In Rome itself no ancient house—indeed no trace of a domestic edifice—exists except the Palace of the Cæsars on the Palatine Mount. Even this is now merely a heap of shapeless ruins, so much so as to have defied even the most imaginative of restorers to make anything of them except a vehicle for the display of their own ingenuity. The extent of these ruins, coupled with the descriptions that have been preserved, suffice to convince us that, of all the palaces ever built, either in the East or the West, this was probably the most magnificent and the most gorgeously adorned. Never in the world's history does it appear that so much wealth and so much power were at the command of one man as were held by the Cæsars; and never could the world's wealth have fallen into the hands of men more inclined to lavish it for their own personal gratification than these emperors were. Besides, they could ransack the whole world for plunder to adorn their buildings, and they could command the artists of Greece, and of all the subject kingdoms, to assist in rendering their golden palaces the most gorgeous that the world had then seen, or is likely ever to see again.

Notwithstanding all this splendour, this palace was probably as an architectural object inferior to the Thermæ. The thousand and one exigencies of private life rendered it impossible to impart to a residence —even to that of the world's master—the same character of grandeur as may be given to a building wholly devoted to show and public purposes. In its glory the Palace of the Cæsars must have been the world's wonder; but as a ruin deprived of its furniture and ephemeral splendour, it probably would present nothing either pleasing or instructive. We must not look for either beauty of proportion or perfection of construction, nor even for appropriateness of material, in the hastily constructed halls of men whose unbounded power was only equalled by the coarse vulgarity of their characters.

Spalatro.

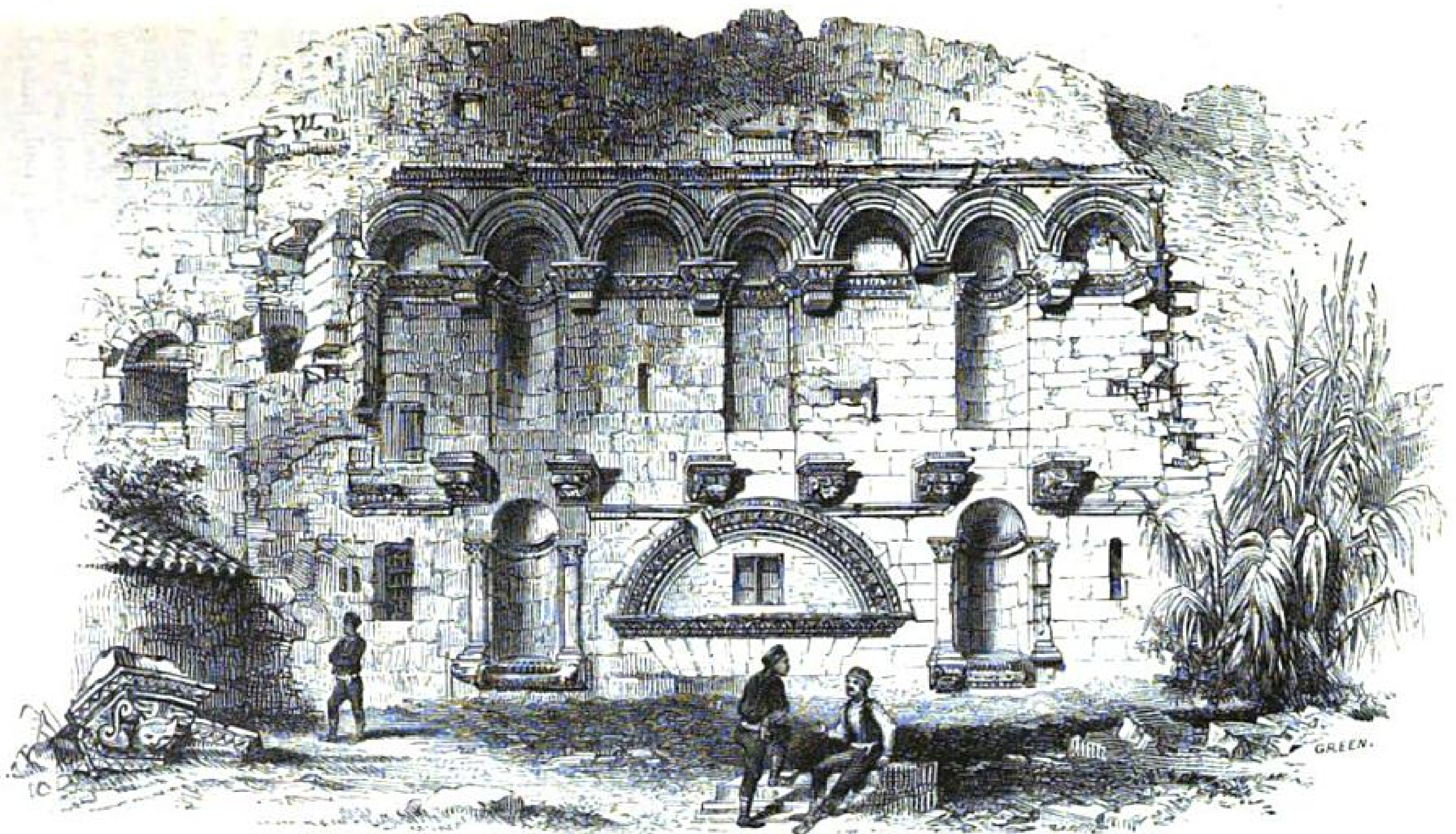
The only palace of the Roman world of which sufficient remains are still left to enable us to judge either of their extent or their arrangements is that which Diocletian built for himself at Spalatro, in Dalmatia, and in which he spent the remaining years of his life, after shaking off the cares of empire. It certainly gives us a most exalted



294. Palace of Diocletian at Spalatro. From Adams.

idea of what the splendour of the imperial palace at Rome must have been when we find one emperor—certainly neither the richest nor the most powerful—building, for his retirement, a villa in the country of almost exactly the same dimensions as the Escurial in Spain, and consequently surpassing in size, as it did in magnificence, most of the modern palaces of Europe.

It is uncertain how far it resembles or was copied from that in



Golden Gateway at Spalatro. From Sir Gardner Wilkinson's Dalmatia.

295.

Rome, more especially as this must be regarded as a fortified palace, which there is no reason to believe that at Rome was, and its model seems to have been the prætorian camp rather than any habitation built within the protection of the walls of a city. In consequence of this its exterior is plain and solid, except on the side next the sea, where it was less liable to attack. The other 3 sides are only broken by the towers that flank them, and those that defend the great gates which open in the centre of each face.

The building is nearly a regular parallelogram, though not quite. The south side is that facing the sea, being 592 ft. from angle to angle; the one opposite only 570;[1] while the east and west sides measure each 698 ft., the whole building thus covering about 9½ English acres.

The principal entrance to the palace is on the north, called the Golden Gate, represented in the annexed woodcut (No. 295), showing all the peculiarities of Roman architecture in its last stage. The horizontal architrave still remains over the doorway, a useless ornament, under a bold discharging arch, which usurps its place and does its duty. Above this, a row of Corinthian columns, standing on brackets, supported the archivolts of a range of niches—a piece of pleasing decoration, it must be confessed, but one in which the original purpose of the column has been entirely overlooked or forgotten.

Entering this portal, we pass along a street ornamented with arcades on either side, till exactly in the centre of the building this is crossed at right angles by another similar street, proceeding from the so-called Iron and Brazen Gates, similar to the Golden Gate in design, but far less richly ornamented.

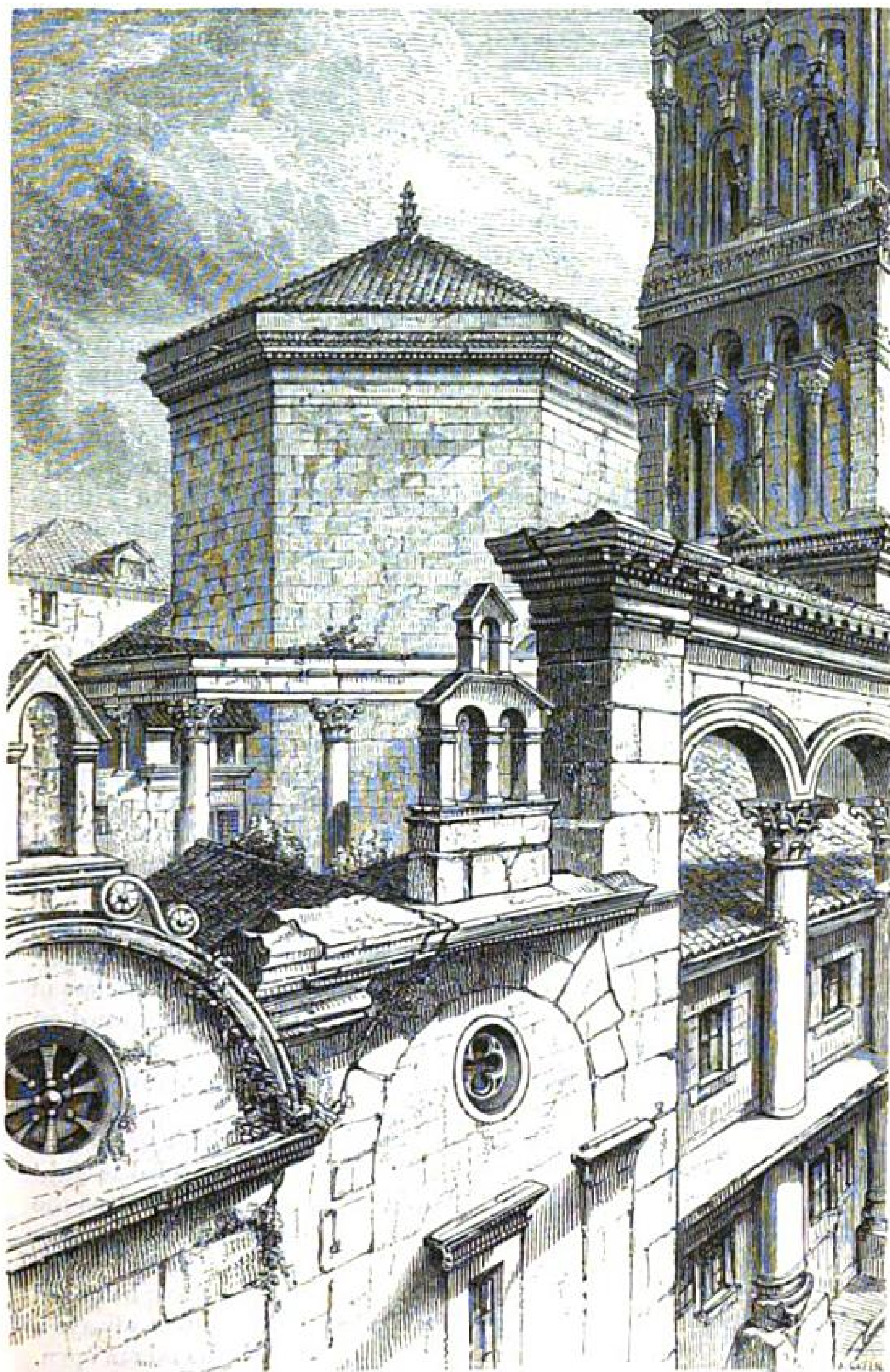
These streets divided the building nearly into 4 portions: the two northern ones are so much ruined that it is not now easy to say either what their plan was, or to what purpose they were dedicated; probably the one might be the lodgings of the guests, the other the residence of the principal officers of the household.

The whole of the southern half of the building was devoted to the palace properly so called. It contained 2 temples, as they are now designated. That on the right is said to have been dedicated to Jupiter, though, judging from its form, it seems rather as if intended as the mausoleum of the founder than as a temple of that god. As a temple it has been illustrated at a previous page.[2] Opposite to it is a small temple, dedicated, it is said, to Æsculapius.

Between these two is the arcade represented in woodcuts No. 246 and 296, at the upper end of which is the vestibule—circular, as all buildings dedicated to Vesta, or taking their name from that goddess, should be. This opened directly on to a magnificent suite of 9 apartments, occupying the principal part of the south front of the palace. Beyond these, on the right hand, were the private apartments of the emperor, and behind them his baths. The opposite side is restored as if it exactly corresponded, but this is more than doubtful; and, indeed,

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[1] By an oversight this difference is not expressed in the woodcut. [2] See pp. 313, 314.



296. Part of Central Arcade, and upper part of Temple, Spalatro. From Sir G. Wilkinson.

there is scarcely sufficient authority for many of the details shown in the plan, though they are, perhaps, sufficiently exact to convey a general idea of the arrangements of a Roman imperial palace.

Perhaps, however, the most splendid feature in this palace was the great southern gallery, 515 ft. in length by 24 in width, extending along the whole seaward face of the building. Besides its own intrinsic beauty as an architectural feature, it evinces an appreciation of the beauties of nature which one would hardly expect in a Roman. This great gallery is the principal point in the design, and commands a view well worthy that such a gallery should be built for its complete enjoyment.

Failing in finding any example of domestic architecture in Rome, we turn to Pompeii and Herculaneum, where we find numerous and most interesting examples of houses of all classes, except, perhaps, the best; for there is nothing there to compare with the Laurentian villa of Pliny, and some others of which descriptions have come down to us; and besides this, Pompeii was far more a Grecian than a Roman city, and its buildings ought to be considered rather as illustrative of those of Greece, or at least of Magna-Græcia, than of anything found to the northward. Still they belong to the Roman age, and, except in taste and in minor arrangements, we have no reason to doubt that they did resemble those of Rome, at least sufficiently so for illustration.

With scarcely an exception, all the houses of Pompeii were of one story only in height. It is true that in some we find staircases leading to the roof, and traces of an upper story, but they seem to have been places for washing and drying clothes, or some such domestic purpose, rather than living or even sleeping rooms. All the principal apartments, at all events, were certainly on the ground floor. As an almost inevitable corollary from this, they all faced inwards, and were lighted from court-yards or *atria*, and not from the outside; for, with a people who had not glass to put into their windows, it was impossible to enjoy privacy or security without at the same time excluding both light and air, except by lighting their rooms from the interior. Hence it arose that in most instances the outside of the better class of houses was given up to shops and smaller dwellings, which opened on the street, while the residence itself was wholly hidden from view by them, except the principal entrance, and sometimes one or two private doors that opened outwards.

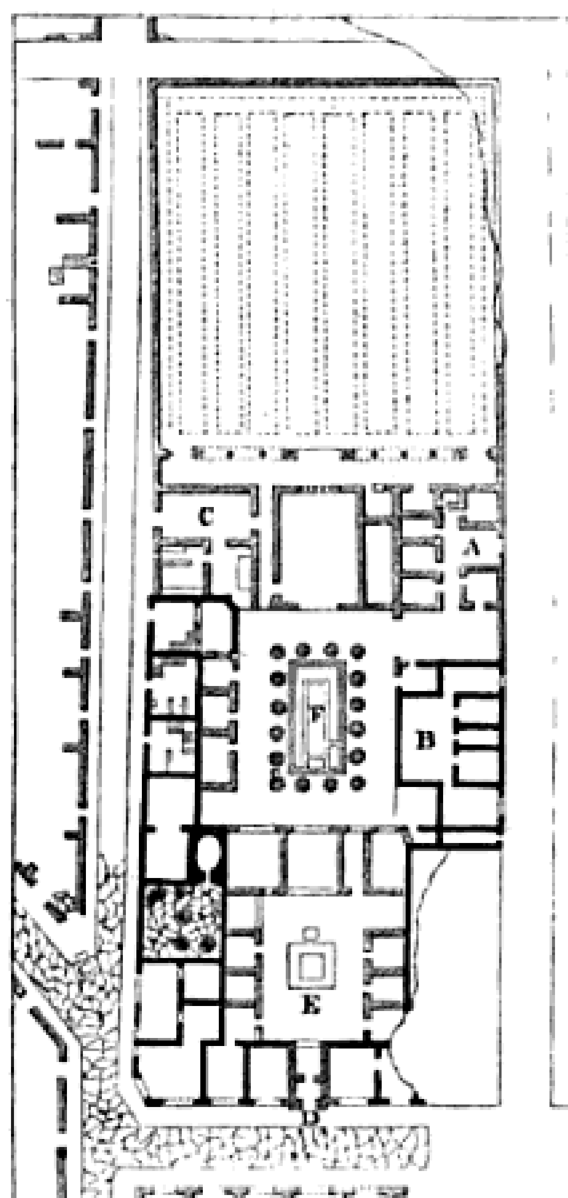
Even in the smallest class of tradesmen's houses which opened on the street, one apartment seems always to have been unroofed to light at least two rooms on each side of it, used as bedrooms; but as the roofs of all are now gone, it is not easy always to determine which was so treated.

It is certain that, in the smallest houses which can have belonged to persons at all above the class of shopkeepers, there was always a central apartment, unroofed in the centre, into which the others open. Sometimes this was covered by 2 beams placed in one direction, and 2 crossing them at right angles, framing the roof into 9 compartments, generally of unequal dimensions, the central one being open, and with

a corresponding sinking in the floor to receive the rain and drainage which inevitably came through it. When this court was of any extent, 4 pillars were required at the intersection of the beams, or angles of the opening, to support the roof. In larger courts 8, 12, 16, or more columns were so employed, often apparently more as decorative objects than as required by the constructive necessities of the case, and very frequently the numbers were unequal, even on opposite sides. Frequently the angles were not right angles, and the pillars spaced unequally with a careless disregard of symmetry that strikes us as strange, though in such objects this was perhaps better than cold and formal regularity, and more productive of grace and beauty. Besides these courts, there generally existed in the rear of the house a court bounded by a dead wall opposite, which in the smaller houses was painted, to resemble the garden which the larger mansions possessed in this direction. The apartments looking on this were of course perfectly private, which cannot be said of any of those looking inwards on the *atrium*.

The house called that of Pansa at Pompeii is a good illustration of those peculiarities, and as one of the most regular is generally chosen for the purpose of illustration.

In the annexed plan (woodcut No. 297) all the parts that do not belong to the principal mansion are shaded darker except the doubtful part marked A, which may either have been a separate house, or the women's apartments belonging to the principal one, or, what is probable, may have been designed so as to be used for either purpose. B is certainly a separate house, and the whole of the remainder of this side, of the front, and of the third side, till we come opposite to A, was let off as shops. At C we have the kitchen and servants' apartments, with a private entrance to the street, and an opening also to the principal peristyle of the house.



297. House of Pansa at Pompeii. From Gell's Pompeii. Scale 100 ft. to 1 in.

Returning to the principal entrance or front door D, you enter through a short passage into the outer court E, on each side of which are several small apartments, used either by the inferior members of the household or for guests. A wider passage than the entrance leads from this to the peristyle, or principal apartment of the house. On the left hand are several small rooms, used no doubt as sleeping apartments, and probably closed by half-doors open above and below, so as to admit air and light, while preserving sufficient privacy, for Roman tastes at

least. In front and on the right hand are 2 larger rooms, either of which may have been the triclinium or dining-room, the other being what we should call the drawing-room of the house. A passage between the kitchen and the central room leads to a verandah which crosses the whole length of the house, and is open to the garden beyond.

As will be observed, architectural effect has been carefully studied in this design, a vista nearly 300 ft. in length being obtained from the outer door to the garden wall, varied by a pleasing play of light and shade, and displaying a gradually increasing degree of spaciousness and architectural richness as we advance. All these points must have been productive of the most pleasing effect when complete, and of more beauty than has been attained in any modern dwelling of like dimensions that I am acquainted with.

Generally speaking the architectural details of the Pompeian houses are carelessly and ungracefully moulded, though it cannot be denied that sometimes a certain elegance of feeling runs through them that pleases in spite of our better judgment. It was not, however, on form that they depended for their effect; and consequently it is not by that that they must be judged. The whole architecture of the house was coloured, but even this was not considered so important as the paintings which covered the flat surfaces of the walls. Comparing the Pompeian decoration with that of the baths of Titus, the only specimen of the same age and class found in Rome, it must be admitted that the Pompeian examples show a more correct taste, not only in the choice but in the application of the ornaments used, though in the execution there is often that difference that might be expected between paintings executed for a private individual and those for the Emperor of the Roman world. Notwithstanding this, these paintings, so wonderfully preserved in this small provincial town, are even now the best specimens we possess of mural decoration. They excel the ornamentation of the Alhambra as being more varied and more intellectual. For the same reason they are superior to the works of the same class executed by the Moslems in Egypt and Persia, and they are far superior to the rude attempts of the Gothic architects in the middle ages; still they are probably as inferior to what the Greeks did in their best days as the pillars of the Pompeian peristyles are to the porticos of the Parthenon. But though doubtless far inferior to their originals, those at Pompeii are direct imitations of true Greek decorative forms; and it is through them alone that we can hope even to guess at the exquisite beauty to which polychromatic architecture once attained, but which we can scarcely venture to hope that it will ever attain again.

One curious point, which has hitherto been too much overlooked, is that in Pompeii there are two perfectly distinct styles of decoration. One of these is purely Etruscan, both in form and colour, and such as is only found in the tombs or on the authentic works of the Etruscans. The other is no less essentially Greek, both in design and colour: it is far more common than the Etruscan form, and always easily to be distinguished from it. The last-mentioned or Greek style of decoration may be again divided into two varieties: one, the most common, con-

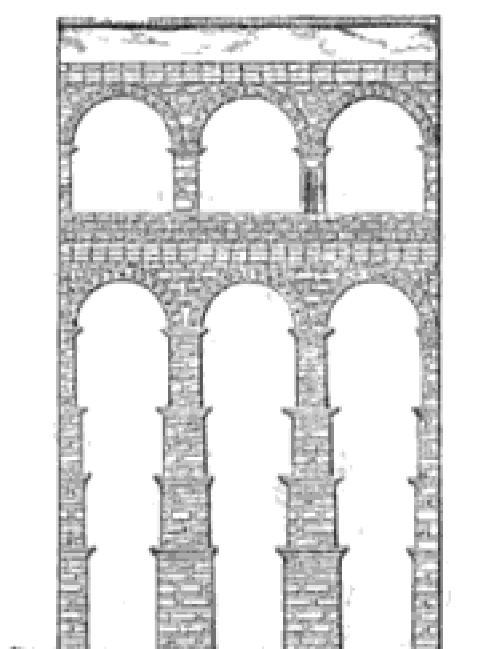
sisting of ornaments directly copied from Greek models; the other with a considerable infusion of Roman forms. This Romanised variety of Greek decoration represents an attenuated and lean style of architecture, which I conceive could only have come into fashion from the continued use of iron or bronze, or other metallic substances, for pillars and architectural members. Vitruvius reprobates it; and in a later age Cassiodorus speaks of it in a manner which shows that it was practised in his time. The frequency of this style of ornament, both at Pompeii and in the baths of Titus, proves it to have been a very favourite style at that time. This being the case, it must have either been a representation of metallic pillars and other architectural objects then in use, or it must have led to the adoption of such a style copied from the painted decorations. This is a new subject, and could not be made clear, except at considerable length and with the assistance of many drawings. I look upon it, however, as an almost undoubted fact that the Romans did use metal as a constructive material. Were it only that columns of extreme tenuity are represented in these paintings, we might be inclined to ascribe it to mere incorrect drawing; but the whole style of ornament here shown is such as is never found in stone or brick pillars, and could only be executed in metal. Besides this, the pillars in question are always represented in the decorations as simply gilt or bronzed, while the representations of stone pillars are coloured. All this evidence goes to prove that a style of art once existed consisting of the employment of metal for the principal features, all material traces of which are now lost. The disappearance of all remains of such a style is easily accounted for by the perishable nature of iron from rust, and the value and consequent insecurity of bronze and similar metals. We know that much bronze has been stolen, even in recent days, from the Pantheon and other buildings which are known to have been adorned with it.

Another thing which we learn from these paintings is, that though the necessities of street architecture compelled these city mansions to take a rectilinear outline, whenever the Roman architects built in the country they indulged in a picturesque variety of outline and of form which they perhaps carried farther than even the Gothic architects of the middle ages. This indeed we might have expected, from the carelessness in respect to regularity in the town-houses; but these were interiors, and, were it not for the painted representations of houses, we should have no means of judging how the same architects would treat an exterior. From this source, however, we learn that in the exterior arrangements, in situations where they were not cramped by confined space, the plan would have been totally free from all stiffness and formality. In this respect Roman taste coincided with that of all true architecture in all parts of the world. It would scarcely have deserved to be noticed, but that in modern times the fault of too great regularity of external plan is painfully prevalent—a fault originated by the architects of the Renaissance, who did not perceive that it was a fatal mistake to treat a number of chambers grouped together precisely as if they were a single apartment.

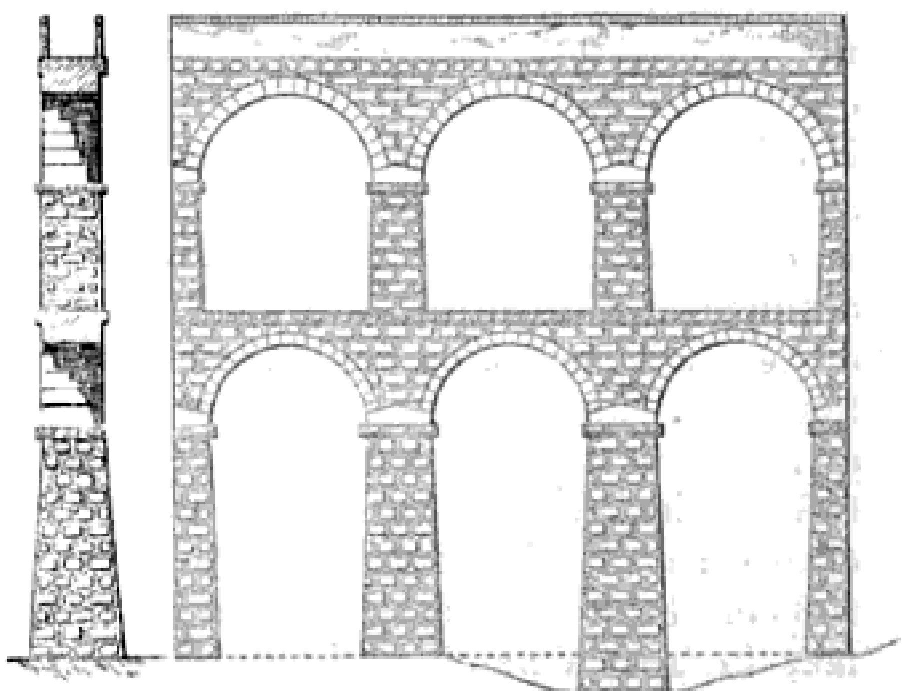
Bridges and Aqueducts.

Perhaps the most satisfactory works of the Romans are those which we consider as belonging to civil engineering rather than to architecture. The distinction, however, was not known in their earlier days. The Romans set about works of this class with a purpose-like earnestness that always ensured success, and executed them on a scale which leaves nothing to be desired; while at the same time they entirely avoided that vulgarity which their want of refinement allowed almost inevitably to appear in more delicate or more ornate buildings. Their engineering works also were free from that degree of incompleteness which is inseparable from the state of transition in which their architecture was during the whole period of the Empire. It is owing to these causes that the substructions of the Appian Way strike every beholder with admiration and astonishment; and nothing impresses the traveller more, on visiting the once imperial city, than the long lines of aqueducts that are seen everywhere stretching across the now arid plain of the Campagna. It is true they are mere lines of brick arches, devoid of ornament or any attempt at architecture properly so called; but they are so well adapted to the purpose for which they were designed, so grand in conception, and so perfect in execution, that in spite of their want of architectural character they are among the most beautiful of the remains of Roman buildings.

The aqueducts were not all so devoid of architectural design as those of the Campagna. That, for instance, known as the Pont du Gard, built to convey water to the town of Nismes in France, is one of the most striking works of antiquity. Its height above the stream is about 180 ft., divided into 2 tiers of larger arches surmounted by a range of smaller ones, giving the structure the same finish and effect that an entablature and cornice gives to a long range of columns, and without one single ornament being introduced, or any member that was not absolutely wanted. This arrangement converts what is a mere utilitarian work into an architectural screen of a beauty hitherto unrivalled in its class.



298. Aqueduct of Segovia. Scale 50 ft. to 1 in.

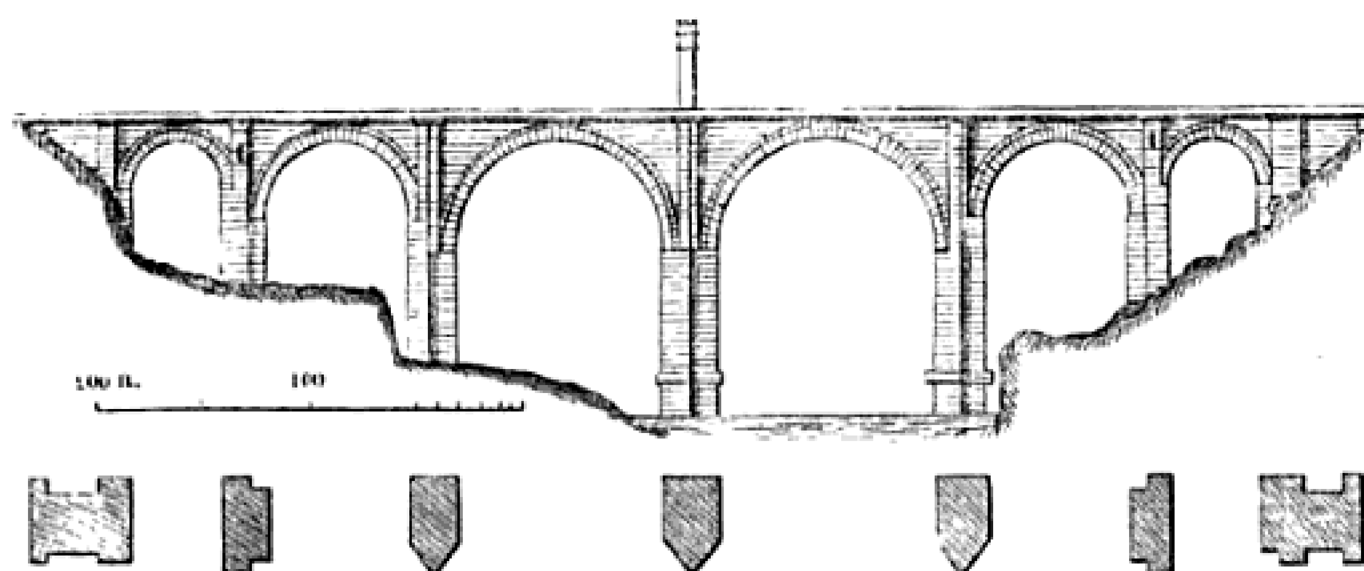


299. Aqueduct of Tarragona. Scale 50 ft. to 1 in.

The aqueducts of Segovia and Tarragona in Spain, though not perhaps so grand, are quite as elegant and appropriate as this; and if they stood across a line of well wooded and watered valleys, might form as beautiful objects. Unfortunately the effect is much marred by the houses and other objects that crowd their bases. Both these rise to about 100 ft. above the level of their foundation in the centre. That of Segovia is raised on light piers, whose effect is perhaps somewhat spoiled by numerous offsets, and the upper tier is perhaps too light for the lower. These defects are avoided at Tarragona, the central arches of which are shown in the annexed woodcut. In this example the proportion of the upper to the lower arcade is more perfect, and the whole bears a character of lightness combined with constructive solidity and elegance unrivalled, so far as I know, in any other work of its class. It wants, however, the grandeur of the Pont du Gard; for though its length is about the same, exceeding 800 ft., it has neither its height nor the impression of power given by the great arches of that building, especially when contrasted with the smaller ones.

The Roman bridges were designed on the same grand scale as their aqueducts, though from their nature they of course could not possess the same grace and lightness. This was more than compensated by the inherent solidity and the expression of power that was imparted by the Romans to all these structures. They seem to have been designed to last for ever; and but for the violence of man, it would be hardly possible to set limits to their durability. Many still remain in almost every corner of the Roman Empire; and wherever found are easily recognised by the unmistakeable impress of Roman grandeur which is stamped upon them.

One of the most remarkable of these is that which Trajan erected at Alcantara, in Spain, represented in the annexed woodcut. The road-



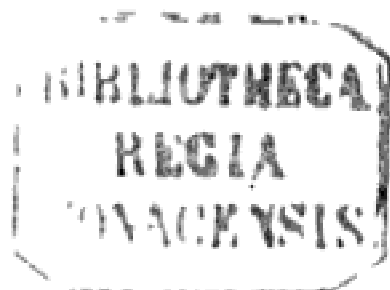
300. Bridge of Trajan at Alcantara, in Spain.

way is perfectly level, as is generally the case in Roman bridges, though the mode by which this is obtained, of springing the arches from different levels, is perhaps not the most pleasing. To us at least it is unfamiliar, and has never, I think, been adopted in modern times. In such a case we should either have made the arches all equal—a mistake, considering their different heights—or have built solidly over the

smaller arches to bring up the level, which would have been a far greater error in construction than the other is in taste. The bridge consists of 6 arches, the whole length of the roadway being 650 ft.; the 2 central arches are about 100 ft. span; the roadway is 140 ft. above the level of the stream which it crosses. The piers are well proportioned and graceful; and altogether the work is as fine and as tasteful an example of bridge-building as can be found anywhere, even in these days of engineering activity.

The bridge which the same Emperor erected over the Danube was a far more difficult work in an engineering point of view; but the superstructure being of wood, resting only on stone piers, it would necessarily have possessed much less architectural beauty than this, or indeed than many others.

These examples must suffice of this class of Roman works, which is so typical of the style that it was impossible to omit the subject altogether, though it scarcely belongs in strictness to the objects of this book. The bridges and aqueducts of the Romans richly deserve the attention of the architect, not only because they are in fact the only works which the Romans, either from taste or from social position, were enabled to carry out without affectation, and with all their originality and power, but also because it was in building these works that the Romans acquired that constructive skill and largeness of proportion which enabled them to grasp at such large dimensions, to vault such spaces, and to give to their buildings generally that size and impress of power which form their chief if not their only merit. It was this too that enabled them to invent that new style of vaulted buildings which at one period of the middle ages promised to reach a degree of perfection which no architecture of the world had ever attained. The Gothic style, it is true, perished at a time when it was very far from completed; but it is a point of no small interest to know where and how it was invented. We shall afterwards have to trace how far it advanced towards that perfection at which it aimed, but to which it never reached. Strangely enough it failed solely because of the revival and the pernicious influence of that very parent style to which it owed its birth, and whose own growth and maturity we have described in the grandeur of the edifices reared at Rome in the first centuries of the Empire.



BOOK VIII.

SASSANIAN ARCHITECTURE.

CHAPTER I.

SASSANIAN ART.

CONTENTS.

Historical notice — Palaces of Diarbekr and Al Hadhr — Domes — Serbistan — Firouzabad — Tak Kesra.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
Ardeshir or Artaxerxes establishes Sassanian dynasty	A.D. 223	Firouzabad (about)	450
Diarbekr and Al Hadhr built (about)	250	Khosru Nushirvan begins to reign	531
Serbistan (about)	350	—— builds palace at Ctesiphon (about)	550
Bahram Gour begins to reign	420	Conquest of Persia by Arabs	641

There is no hiatus in the whole history of architecture more complete than that which occurs in Central Asia during the 10 centuries which elapsed from the conquest of that country by Alexander the Great till the time when it fell under the yoke of the Mahometans. At the same time there are few gaps which it would be more interesting to fill up. For though we are enabled from our knowledge of the history of Roman art to trace every step of the change which took place in the transformation of the classic style of Rome to that of the Mediæval Gothic, we are wholly without the means of following out the same process in the East. The destruction of Alexandria, and the disappearance of Seleucia and Ctesiphon and all the other great cities of Asia, have left us almost wholly without materials for this purpose. In consequence of this many of the forms which architecture took during the middle ages in the eastern half of the Roman Empire must remain to us inexplicable riddles, unless it should happen that a more careful examination of provincial examples may supply the required information. It is more than probable that such cities as Diarbekr, Mardin, Nisibin, and others situated near the hills and where stone was currently used, may afford many examples for this purpose when looked for, and there are no doubt many very early churches in Asia Minor

and Armenia which would supply some at least of the links in the now broken chain.

It is true nevertheless that the study of Roman art explains much of what we find in the first ages of that of Byzantium. But the transformation of the former into the latter style was owing to the introduction of a new element which has hitherto been unheeded, and a knowledge of which can only be supplied from Central Asia.

The want of this knowledge is not so much felt in studying the buildings of Constantinople itself as in those of Armenia and Asia Minor. In the capital the influence of Rome always predominated, but farther east it very early gave place to the Asiatic forms whose influence soon obliterated all trace of western art.

It is only when we shall acquire a knowledge of the steps of the transformation in the East as well as in the West that we shall understand the Christian Byzantine style, which is almost equally important with the Gothic, or know from whence and how that Eastern style arose: at present we are very far from having the information requisite for the purpose.

The dearth of monuments is almost absolute during the first half of these dark ages of the Persian Empire. During that period the throne was occupied by the Seleucidæ and Arsacidæ, Grecian and Parthian strangers, who occupied the country more as a conquered province than as their settled home, and consequently cared little to adorn it with great or lasting monuments of art.

Their cities were built principally out of the materials of the older capitals, and adorned with architectural ornaments stolen from their edifices. These materials too being merely sunburnt bricks, we cannot wonder that all the principal buildings, not only of Susa and Babylon, but also of Seleucia and Ctesiphon, have wholly disappeared.

Had these cities been situated farther north, and had stone been more generally employed in their construction, the case might have been different; but the sunburnt bricks and wooden pillars which seem always to have been the staple material of construction in the southern parts of the valley of the Euphrates perish almost as soon as the buildings in which they are used are deserted, and in a few years leave nothing but a mass of undefinable rubbish.

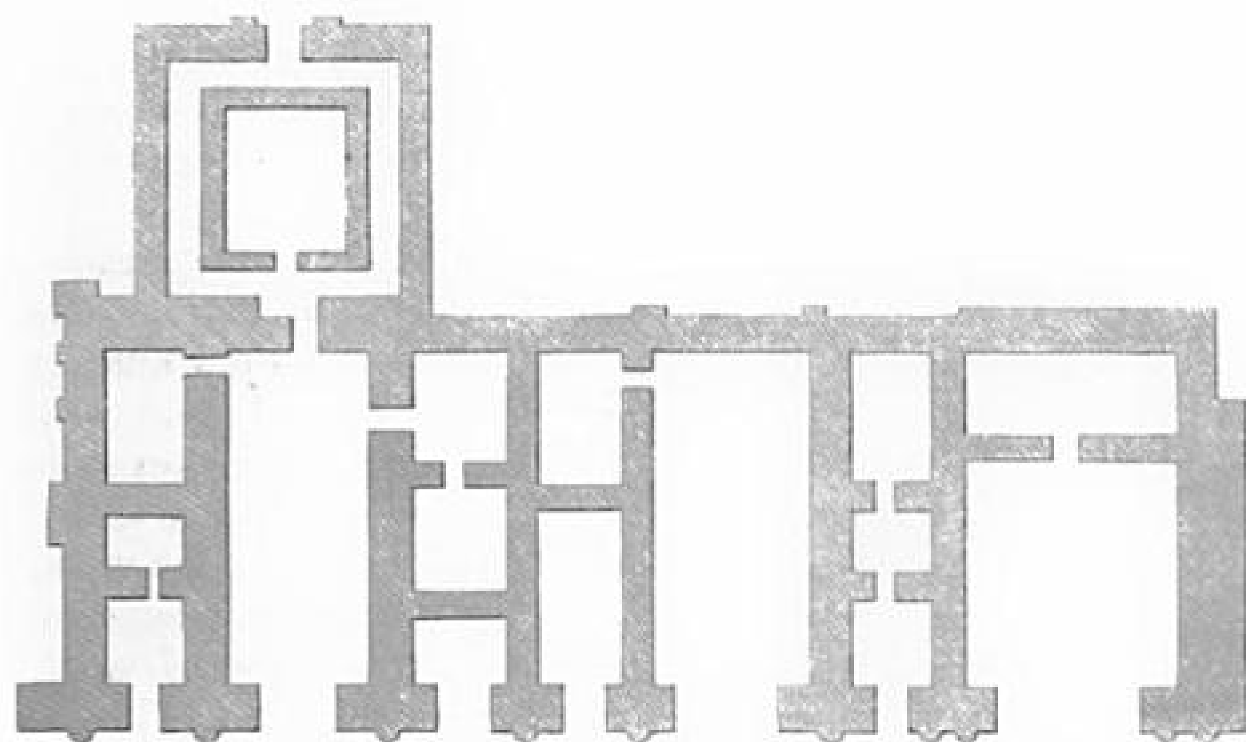
The only two buildings which are known to exist belonging to this period are the ruins of two palaces, one at Diarbekr, the other at Al Hadhr. Both owe their preservation to the circumstance of their being situated near the hills, and consequently to their being built of the stone of the neighbourhood.

The building at Diarbekr is known as the palace of Tigranes, though certainly more modern than his age. It consists principally of a façade two stories in height, ornamented with Corinthian pilasters and three quarter columns of a debased but picturesque style. These are surmounted by very deep entablatures, every member of which is overloaded with minute and elaborate carving, displaying all the Roman ornaments, but seldom in their right places, and far too crowded to be pleasing.

Between the pillars are doorways and windows, some crowned with pointed arches, others with a rude trefoil, but none with the plain square architrave of the classic styles. Altogether the building is such that if it were found in France no one would hesitate to ascribe it to the reign of Francis I.; and it would be difficult to point out any feature in this Eastern example which would not perfectly agree with such an ascription. So remarkably similar were the forms which arose in different parts of the world immediately out of the Classic style, in the middle ages, both to one another and to those which prevailed when, during the period of the Renaissance, architecture passed back to the pseudo-classic again.

The Golden Gateway and the mosque of Omar at Jerusalem are the buildings in the East which most resemble this one at Diarbekr in style. Those examples certainly belong to the age of Constantine, and the exuberance of ornament at Diarbekr, and the admixture of barbarian details, would lead us to suppose that this palace was more modern than those buildings at Jerusalem. The true explanation, however, most probably is that this building is situated in a remote province, where Roman influence must always have been weak, and where consequently its builders emancipated themselves earlier from the classic forms than they could do in countries longer occupied by the Romans. Though not so early as the time of Tigranes, it is probable that this building was erected at least a century before that of Constantine.

The other building, that at Al Hadhr, is situated in the plain, about 30 miles from the Tigris, nearly west from the ruins of Kaleh Sherghat.



301. Plan of Palace at Al Hadhr. From a Sketch by Mr. Layard. Scale 100 ft. to 1 in.

The city itself is circular in plan, nearly an English mile in diameter, and surrounded by a stone wall with towers at intervals. In the centre of this stands a walled enclosure, nearly square in plan, about 700 ft. by 800. This is again subdivided into an outer and inner court by a wall across its centre. The outer court is unencumbered

by buildings, the inner nearly filled with them. The principal of these is that represented in woodcut No. 301. It consists of three large and four smaller halls placed side by side, with various smaller apartments in the rear of these. All these halls are roofed by semi-circular tunnel vaults, without ribs or other ornament, and they are all entirely open in front, all the light and air being admitted from this one end.

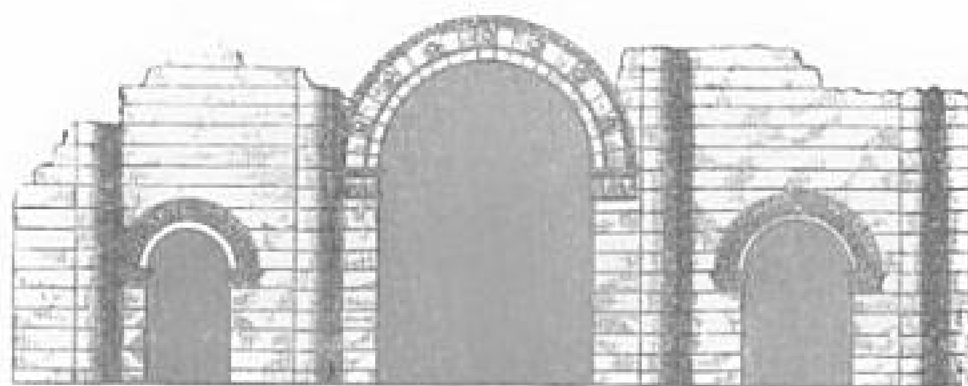
There can be very little doubt but that these halls are copies, or intended to be so, of the halls of the old Assyrian palaces; but that strange mania for vaulted roofs which seized on all the nations of the East as well as on those of the West during the middle ages led the architect on to a new class of arrangements, which renders the resemblance by no means apparent at first sight.

The old halls had almost invariably their entrances on the longer side; but with a vault this would have required immense abutments; and without intersecting vaults, which were not then invented, would even then have been difficult.

The most obvious mode of meeting the difficulty was that adopted here of using the halls as abutments the one to the other, like the arches of a bridge; so that, if the two external arches were firm, all the rest were safe. This was provided for by making the outer halls smaller, as shown in the elevation (woodcut No. 302), or by strengthening the outer wall. But even then the architect seems to have shrunk from weakening the intermediate walls by making too many openings in them. Those which do exist are small and infrequent; so that there is generally only one entrance to each apartment, and that so narrow as to seem incongruous with the size of the room to which it leads.

It is by no means clear to what use the square apartment in the rear with the double wall was applied. It may have been a temple, but more probably contained a stair or inclined plane leading to the roof or upper rooms, which almost certainly existed over the smaller halls at least.

All the details of the building are copied from the Roman, the archivolts and pilasters almost literally so, but still so rudely executed as to prove that it was not done under the direct superintendence of a Roman artist. This is even more evident with regard to the griffins and scroll-work, and the acanthus-leaves which ornament the capitals and friezes. The most peculiar ornament, however, is the range of masks which are carried round all the archivolts of the arches. The only thing known at all similar is the celebrated arch at Volterra with three masks; but here these are infinitely more numerous over



302. Elevation of part of the Palace at Al Hadhr. Scale 50 ft. to 1 in.

all the arches, and form in fact the principal features of the decorations.

Even tradition is silent regarding the date of these remarkable ruins. The style of architecture, however, certainly points to a period anterior to the age of Constantine, but not so early as the time of Aurelian and the flourishing days of Palmyra. They are probably nearly coeval with those at Diarbekr. It is difficult, however, to speak at all confidently, as we are so entirely ignorant of the local circumstances of the place at the time the buildings were erected, and local peculiarities often influence a style as much as the age in which it flourished.

With the accession of the Sassanians, A.D. 223, Persia regained much of that power and stability to which she had been so long a stranger. The capture of the Roman Emperor Valerian by the 2nd king of the race, the conquest of Armenia and victories over Galerius by the 7th, and the exploits of the 14th, Bahram Gaur, and his visit to India and alliance with its kings, all point to extended power abroad; while the improvement in the fine arts at home indicates returning prosperity and a degree of security unknown since the fall of the Achæmenidæ.

These kings seem to have been of native race, and claimed descent from the older dynasties; at all events they restored the ancient religion, and many of the habits and customs with which we are familiar as existing before the time of Alexander the Great.

As before remarked, the fire-worship does not admit of temples, and we consequently miss that class of buildings which in all ages best illustrates the beauties of architecture; and it is only in a few scattered remains of palaces that we are able to trace the progress of the style. Such as they are, they indicate considerable originality and power, but at the same time a state of society when attention to security hardly allowed the architect the free exercise of the more delicate ornaments of his art.

The Sassanians took up the style where it was left by the builders of Al Hadhr, but we only find it after a long interval of time, during which changes had taken place which altered it to a considerable extent, and made it in fact into a new and complete style.

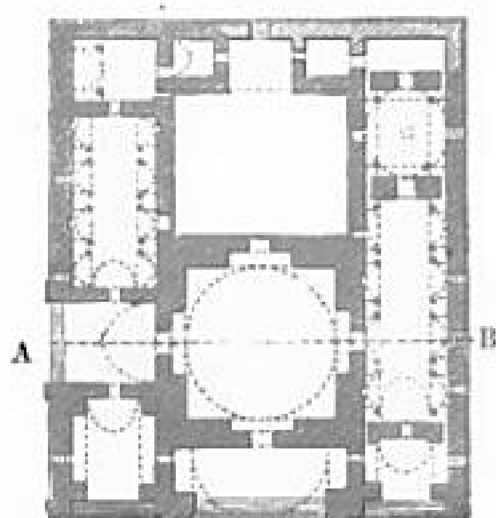
They retained the great tunnel-like halls of Al Hadhr, but only as entrances. They cut bold arches through the dividing walls, so as to form them into lateral suites. But above all they learnt to place domes on the intersections of their halls, not resting on drums, but on *pendentives*,[1] and did not even attempt to bring down simulated lines of support to the ground. Besides all these constructive peculiarities, they lost all trace of Roman detail, but adopted a system of long reed-like pilasters, extending from the ground to the cornice, below which

[1] These are expedients for filling up the corners of square lower stories on which it is intended to place a circular superstructure. They somewhat resemble very large brackets or corbels placed in an angle. Examples of them will be found in the chapter on Mahometan Architecture in India, further on.

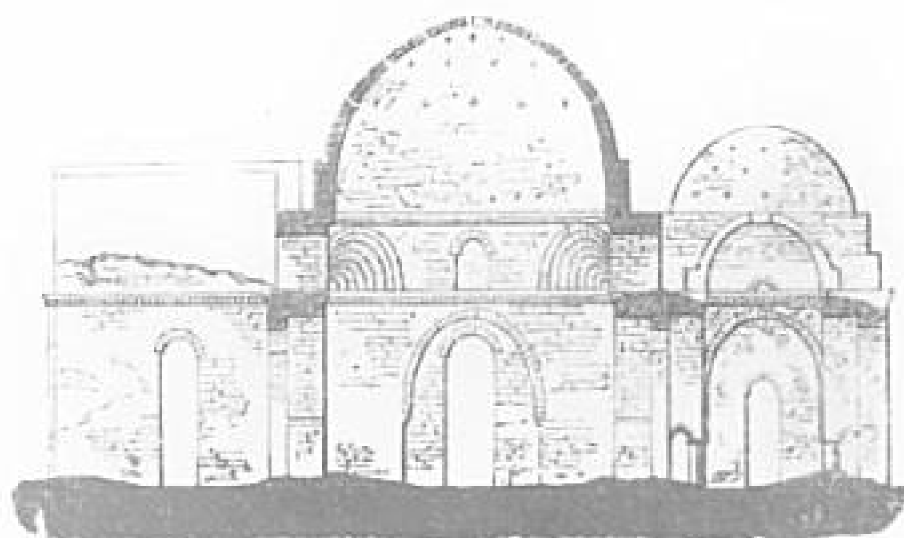
they were joined by small semicircular arches. They in short adopted all the peculiarities which are found in the Byzantine style as carried out at a later age in Armenia and the East. We must know more of this style, and be able to ascribe authentic dates to such examples as we are acquainted with, before we can decide whether the Sassanians borrowed the style from the Eastern Romans, or whether they were in fact the inventors from whom the architects of the more western nations took the hints which they afterwards so much improved upon.

The various steps by which the Romans advanced from the construction of buildings like the Pantheon to that of the church of St. Sophia at Constantinople are so consecutive and so easily traced, that they are intelligible in themselves without the necessity of seeking for any foreign element which may have affected them. If it really was so, and the architecture of Constantinople was not influenced from the East, we must admit that the Sassanian was an independent and simultaneous invention, possessing characteristics well worthy of study. It is quite certain too that this style had a direct influence on the Christian and Moslem styles of Asia, which exhibit many features which they could not have derived from any of the more western styles.

A few examples will render this clearer than it can be made in words. The plan and section (woodcuts No. 303 and No. 304) of a



303. Plan of Palace at Serbistan. Scale 100 ft. to 1 in.

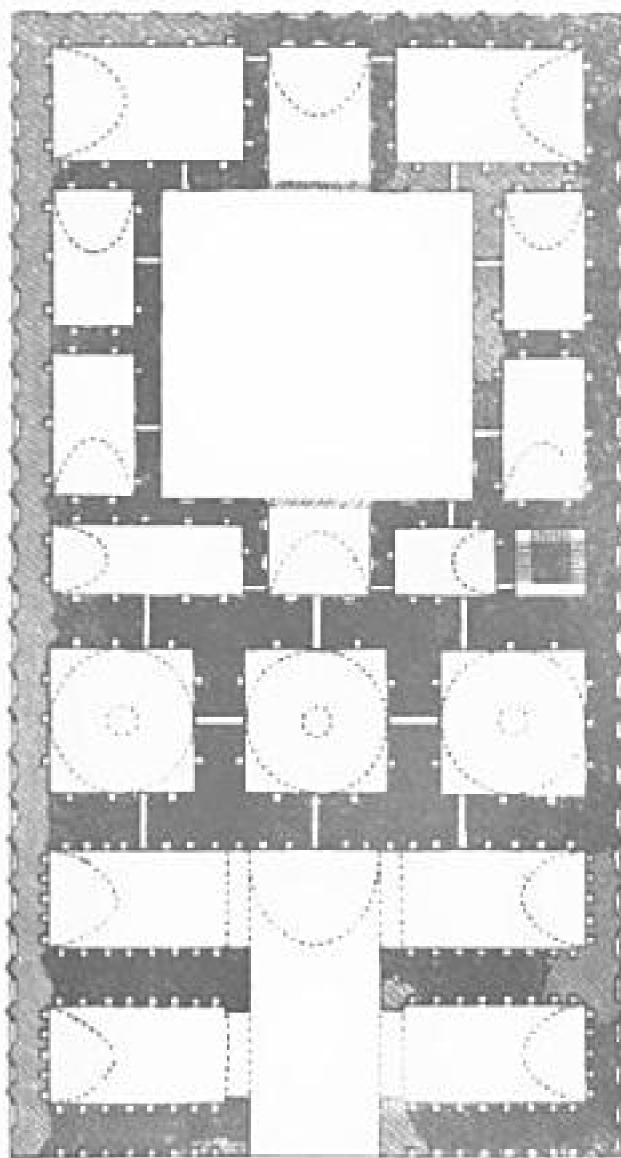


304. Section on line A B of Palace at Serbistan. From a drawing in Flandin and Coste's Voyage en Perse. Scale 50 ft. to 1 in.

small but interesting palace at Serbistan will explain most of the peculiarities of the style. The entrances, it will be observed, are deep tunnel-like arches, but the centre is covered by a dome resting on pendentives, not filling up the angles by a great bracket, as was usual with the Romans, but constructed by throwing a series of arches across them, as shown in the woodcut, so as to convert the square into the circular form required. The dome too is elliptical, not semicircular, and is the next step to the pointed or conical dome, which was necessarily introduced in the more rainy climates further north. Being of brick, the building depended externally on stucco for its ornaments; and this having perished, we are left without the means of judging of its details or ornamental features.

In the lateral halls, pillars are placed at some distance from the walls, from which heavy transverse ribs spring. The builders thus

obtained the means of counteracting the thrust of the vault, without breaking the outline by buttresses externally, and without occupying much room on the floor, while at the same time these projections added considerably to the architectural effect of the interior. The date of this building is not correctly known, but most probably it belongs to the age of Shapour in the middle of the third century.

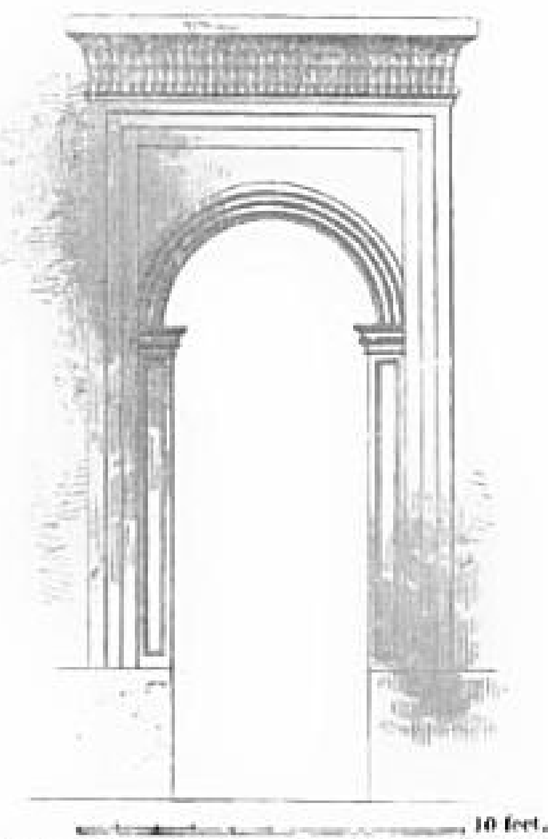


305. Plan of Palace at Firouzabad. From a drawing by Flandin and Coste. Scale 100 ft. to 1 in.

The palace at Firouzabad is probably a century more modern, and erected on a far more magnificent scale, being in fact the typical building of the style, so far at least as we at present know.

As will be seen in the plan (woodcut No. 305) the great central entrance opens laterally into two side chambers, and these into a suite of three splendid domed apartments, occupying the whole width of the building. Beyond this is an inner court, surrounded by apartments all opening upon it.

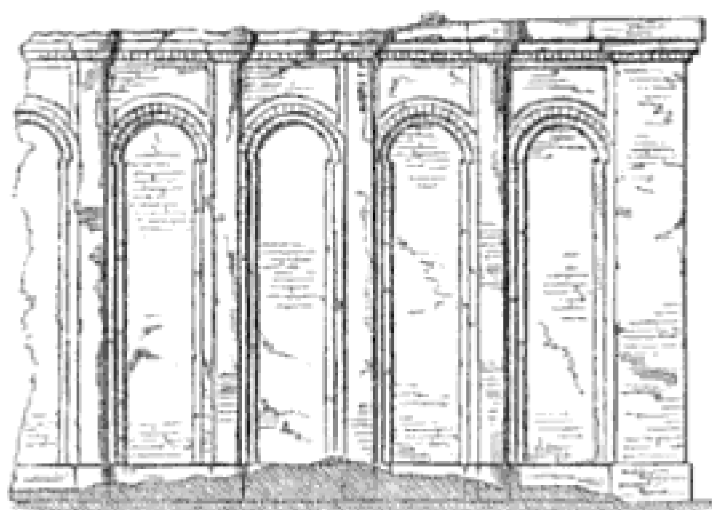
As will be perceived from the woodcut No. 306, representing one of the doorways in the domed halls, the details have nothing Roman about them, but are borrowed directly from Persepolis, with so little change that the style, so far as we can now judge, is almost an exact reproduction. The portion of the exterior represented in woodcut No. 307 tells the same tale, though for its prototype we must go back still further to the ruins at Wurka—the building called Wuswus at that place (see page 185) being a palace arranged very similarly to these, and adorned externally by panellings and reeded pilasters, differing from these buildings only in detail and arrangement, but in all essentials so like them as to prove that the Sassanians borrowed most of their peculiarities from earlier native examples.



306. Doorway at Firouzabad. From Flandin and Coste.

The building itself is a perfectly regular parallelogram, 332 ft. by 180, without a single break, or even an opening of any sort, except

the one great arch of the entrance; and externally it has no ornament but the repetition of the tall pilasters and narrow arches represented in woodcut No. 307. Its aspect is thus simple and severe, but more like a gigantic Bastile than the palace of a gay pavilion-loving people like the Persians.

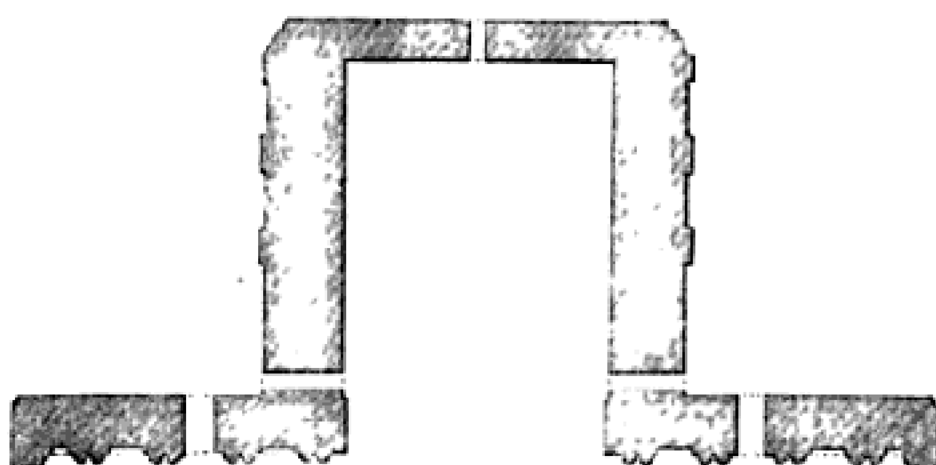


307. Part of External Wall, Firouzabad. No scale.

Internally the arrangement of the halls is simple and appropriate, and, though somewhat too formal, is dignified and capable of considerable architectural display. On the whole, however, its formality is perhaps less pleasing than the more picturesque arrangements of the palace at Serbistan last described.

Another century probably elapsed before Khosru (Nushirvan) commenced the most daring, though certainly not the most beautiful, building ever attempted by any of his race; for to him we must ascribe the well-known "Tâk Kesra" (woodcuts No. 308 and No. 309), the only important ruin that now marks the site of the Ctesiphon of the Greeks—the great Madain of the Arabian conquerors.

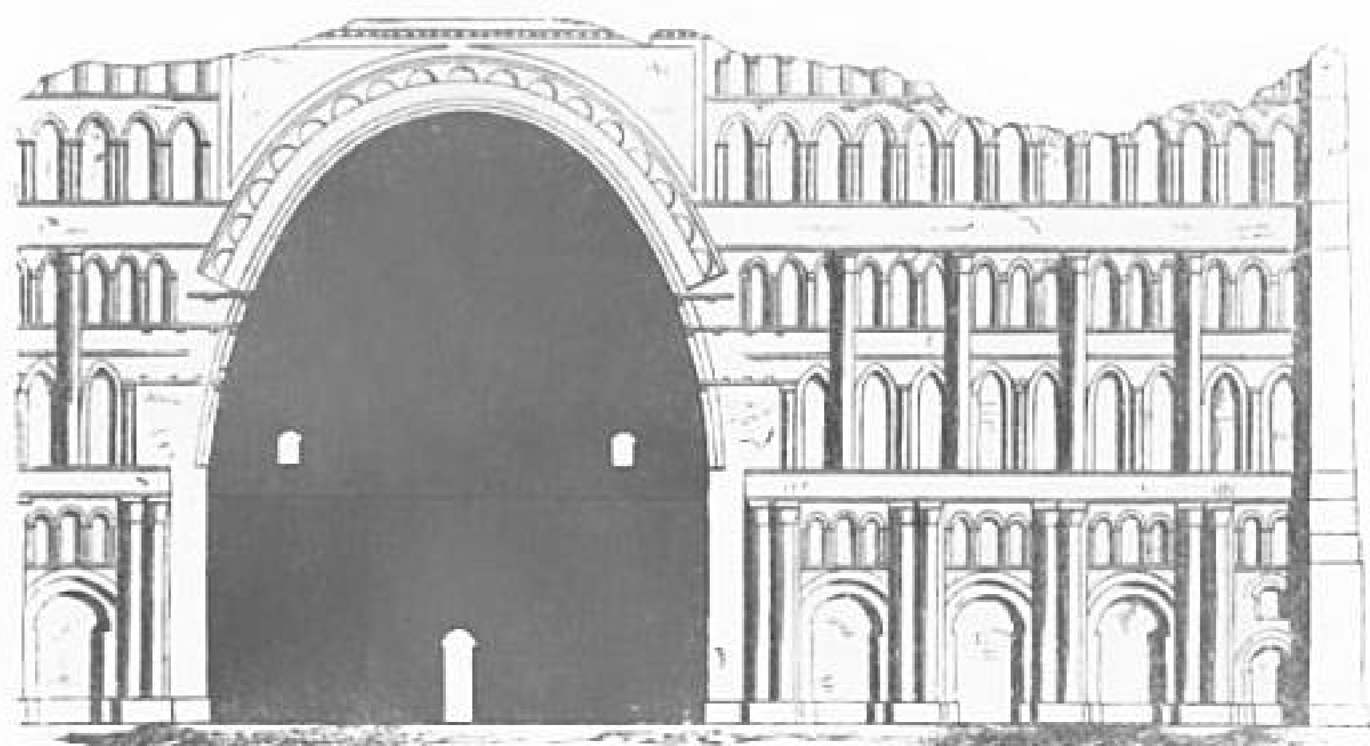
As it is, it is only a fragment of a palace, a façade similar in arrangement to that at Firouzabad, but on a much larger scale, its width being 370 ft., its height 105. Instead of the plain circular arch of the earlier example, the architect here has attempted the section of one of his domes—hoping thus to avoid some, at least, of the lateral thrust—to obtain, in short, by an ellipse what the Gothic architects managed by the pointed arch. As a mere scientific point of construction it is not clear that the Sassanian did not take the best mode of attaining his end; but to our eyes, at least, it appears fortunate that the Gothic architects had other models before them, or they might have copied what perhaps even their ability would never have rendered a beauty.



308. Plan of Tâk Kesra at Ctesiphon. From Flandin and Coste. Scale 100 ft. to 1 in.

Another detail in which this building contrasts most painfully with the last described is that, instead of the tall, simple, and elegantly-shaped pilasters that adorned its exterior, we here find a number of stories of blind arches superimposed the one on the other without any apparent motive, and certainly without any compensating degree of elegance. The foiling of small arches, however, round the great one

is curious, and points to a mode of decoration which subsequently played an important part in the history of architecture.[1]



309. Elevation of Great Arch of Tāk Kesra at Ctesiphon. Scale 50 ft. to 1 in.

Though it may not perhaps be beautiful, there is something certainly grand in a great vaulted entrance, 72 ft. wide by 85 ft. in height, and 115 in depth, though it makes the entrance at the inner end and all the adjoining parts look singularly small. It would have required the rest of the palace to have been carried out on an unheard-of scale to compensate for this defect. The Saracenic architects got over the difficulty by making the great portal a semidome, and by cutting it up with ornaments and details, so that the doorway looked as large as was required for the space it occupied. Here, in the parent form, all is perfectly plain in the interior, and painting only could have been employed to relieve its nakedness, which however it never could have done effectually.

Taking it altogether the building is interesting as containing the germs of much that followed, rather than for any intrinsic merit of its own. The same is perhaps true of the style to which it belongs. If properly worked out and illustrated it would probably explain nearly all the difficulties of the Eastern forms of the Byzantine style; and there can be little doubt but that ample materials exist for the purpose, and will be made available as soon as attention is fairly directed to the subject.

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[1] These 5 buildings, taking the first two as one, probably date as near as may be one century from each other, thus—

Diarbekr . .	A.D. 250 }
Al Hadhr	250 }
Serbistan	350
Firouzabad . .	A.D. 450
Ctesiphon	550

A bare skeleton which it will require much time and labour to clothe with flesh and restore to life.

BOOK IX.

SARACENIC ARCHITECTURE.

CHAPTER I.

INTRODUCTION.

The first century of the Hejra forms a chapter in the history of mankind as startling from the brilliancy of its events as it is astonishing from the permanence of the results attained. Whether we consider the first outburst of Mahometanism as a conquest of one of the most extensive empires of the world by a small and previously unknown people, or as the propagation of a new religion, or as both these events combined, the success of the movement is without a parallel in history. It far surpassed the careers of the great Eastern conquerors in the importance of its effects, and the growth of the Roman empire in brilliancy and rapidity. From Alexander to Napoleon conquests have generally been the result of the genius of some gifted individual, and have left, after a short period, but slight traces of their transient splendour. Even Rome's conquest of the world was a slow and painful effort compared with that of the Arabians; and, though she imposed her laws on the conquered nations, and enforced them by her military organisation, she neither attempted nor had the power to teach them a new faith; nor could she bind the various nations together into one great people, aiding her with heart and hand in the great mission she had undertaken.

It is true that a poor and simple, but warlike and independent, people like the Arabs could not long exist close to the ruins of so wealthy and so overgrown an empire as that of Constantinople without making an attempt to appropriate the spoil which the effeminate hands of its possessors were evidently unable to defend. It was equally impossible that so great a perversion of Christianity as then prevailed in Egypt and Syria could exist in a country which from the earliest ages had been the seat of the most earnest Monotheism, without provoking some attempt to return to the simpler faith which had never been wholly superseded. So that on the whole the extraordinary success of Mahometanism at its first outset must be attributed to the utter corruption, religious and political, of the expiring empire of the

East, as much as to any inherent greatness in the system itself, or the ability of the leaders who achieved the great work.

Had it been a mere conquest it must have crumbled to pieces as soon as completed; for Arabia was too thinly populated to send forth armies to fight continual battles and maintain so widely extended an empire. Its permanence was owing to the fact that the converted nations joined the cause with almost the enthusiasm of its original promoters; Persia, Syria, and Africa in turn sent forth their swarms to swell the tide of conquest, and to spread the religion of Islam to the remotest corners of the globe.

To understand either Mahometan history or art it is most essential to bear this constantly in mind, and not to assume that, because the first impulse was given from Arabia, everything afterwards must be traced back to that primitive people; on the contrary, there was no great depopulation, if any, of the conquered countries, no great transplantation of races. Each country retained its old inhabitants, who under a new form followed their old habits and clung to their old feelings with all the unchangeableness of the East, and perhaps with even less outward change than is usually supposed. Before the time of Mahomet the Sabæan worship of the stars was common to Arabia as well as to Persia and a great part of the Babylonian empire. The Jewish religion was diffused through Syria and parts of Arabia. Egypt, long before the time of Mahomet, must have been to a great extent Arabian, as it now wholly is. In all these countries the religion of Mahomet struck a chord that still vibrated among the people, and must have appeared more as a revival of the past than as the preaching of a new faith. In Spain alone colonization to some extent seems to have taken place, and the faith to have been new and strange; and there too alone we find the inevitable corollary of its early extinction.

So weak indeed in the converted countries was the mere Arabian influence, that each province soon shook off its yoke, and, under their own caliphs, Persia, Syria, Egypt, Africa, and Spain soon became independent states, yielding only a nominal fealty to that caliph who claimed to be the rightful successor of the Prophet, and, except in faith and the form of religion, the real and essential change was slight, and far more in externals than in the innate realities of life.

All this is more evident from the architecture than it is from any other source, without at least more study than most people would feel inclined to devote to the subject. The Arabs themselves had no architecture, properly so called. Their only temple was the Kaabah at Mecca, a small square tower, almost without any architectural ornaments, and far more famous for its antiquity and sanctity than for any artistic merit.

It is said that Mahomet built a mosque at Medina—a simple edifice of bricks and palm-sticks.[1] But the Koran gives no directions on the subject, and so simple were the primitive habits of the nomade Arabs that it is probable that if the religion had been confined to its native

[1] Abulfeda, ed. Reiske, vol. i. p. 32.

land, no mosque worthy of the name would ever have been erected. With them prayer everywhere and anywhere was equally acceptable. All that was required was for the faithful to turn towards Mecca at stated times and pray, going through certain forms and in certain attitudes, but whether the place was the desert or the housetop was quite immaterial.

Persia too seems in the earlier ages of Mahometanism to have retained her primitive horror for a stone-and-mortar worship, and to have refrained from building mosques, as she had refrained in still earlier ages from erecting temples properly so called; at least no trace of any ancient mosque has yet been discovered in that land, nor even a very distinct tradition of their former existence or character. If they did exist, they no doubt took their forms principally from the buildings with which the Sassanian kings had adorned the country.

In Syria the earlier buildings were direct copies of the Byzantine churches that had previously existed there; and in Egypt the Roman remains furnished both the ideas and the materials for their earliest edifices. Unfortunately the architecture of these lands, from the time of Constantine to that of Heraclius, is only very imperfectly known to us, and there is some difficulty in tracing the Moorish forms back to their source.

In Spain the Roman remains exercised an even more distinct influence on the style than elsewhere, and, knowing more of Mahometan architecture in that country, we can more easily point out the mode in which this influence acted.

This adoption of the forms belonging to the conquered countries is even more striking when we turn to India, where in the 12th century we find the Moslems employing Hindu architects to erect and adorn their mosques in their own native styles. Even two centuries later, when the Mahometans conquered Constantinople and began to adorn it with edifices consecrated to their own faith, they did not follow the models they were familiar with in those lands where they had long been settled, but copied, with more or less fidelity, the Christian edifices of the captured city.

It is true that, after centuries of practice, most of these heterogeneous elements became fused into a complete style. This style possesses so much that is entirely its own as to make it often difficult to detect the germs, taken from older styles of architecture, which gave rise to many of its most striking peculiarities. These, however, are never entirely obliterated. Everywhere the conviction is forced upon us that originally the Moslems had no style of their own, but adopted those which they found practised in the countries to which they came. In other words, the conquered or associated people still continued to build as they had built before their conversion, merely adapting their former methods to the purposes of their new religion. After a time this Mahometan element thus introduced into the styles of different countries produced a certain amount of uniformity. This was increased no doubt by the intercommunications which arose from the community of religion. In this way at last a style was elaborated,

tolerably homogeneous, though never losing entirely those local peculiarities which it received from the earlier styles out of which it rose, and which still continue to mark most distinctly the various nationalities which made up the great empire of Islam.

So essential is the observance of these distinctions of races and styles to enable us to understand the architecture generally and appropriately known under the title of Saracenic, that it is impossible to follow its history consecutively as a whole; and it will be necessary to divide it into chapters, each comprising a separate branch of the style, and thus going several times over the same periods of time, but of course avoiding as far as may be possible anything like repetition.

The following appears to be the division that will enable this to be done with the greatest distinctness:—

1st. The Syrian—the earliest and most like the Byzantine of all the Mahometan styles, but of which few early specimens now remain.

2nd. The Egyptian, which may be called the typical style of the group, commencing at the same time and from the same originals as the Syrian; but, being practised without foreign admixture for 10 or 11 centuries, it acquired a completeness and at the same time an elegance greater than what is found in any of the others.

3rd. The Persian—a style whose origin it is difficult now to trace, but which at its culminating point rivalled that of Egypt in splendour, but never in elegance nor in true architectural propriety.

4th. The Indian styles naturally form the next chapter. Their origin and history being perfectly well known, no difficulty can arise in tracing them to their source, or marking their gradations, or in appreciating their beauties, which in some respects are nearly unrivalled.

5th. After completing this survey of the Eastern styles, we return to that of Spain—a style differing so much from the others as to constitute a subject very complete in itself.

6th. The last distinctive style is that of Constantinople, comprising merely those edifices which were erected by the Turks in imitation of Santa Sophia and the other Christian churches of that city.[1]

Domes and Pointed Arches.

It will be necessary, before describing the different branches of Saracenic architecture, to say a few words on the introduction of some of its principal distinctive features. In speaking of Roman architecture allusion was more than once made to the change brought about by the

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[1] As will be observed, the style enumerated under the first two heads rose directly out of the Byzantine art; and in strictness the chapter ought consequently to follow what is said on that style. A perfectly consecutive arrangement of so complex a subject is, I fear, impossible; and so much inconvenience would occur from breaking the thread of the Christian narrative, to introduce a description of a style, only two of whose various forms rose out of that Christian art, that I believe the order adopted will be found more convenient. Besides, we know so very little of the arts of the Christian East, between the ages of Constantine and Heraclius, that no direct light can, at present at least, be thrown on the subject from that source. If, however, any part of what follows seems obscure from the want of the previous knowledge, I must beg the reader to peruse first the chapter on Byzantine art, and then return to this.

introduction of arches by that people, not only into the construction, but into the decorative parts of buildings. Even this was less important than the introduction of continuous arches, or in other words of vaults and domes, as a roofing to interiors, which gave an entirely new character to the whole art, necessitating a new and complicated arrangement of thrusts and equipoises, with abutments and buttresses of various sorts, to maintain an equilibrium in the various parts of the edifice. This necessity was wholly unknown in earlier styles—a prop sufficient to support a weight acting perpendicularly upon it being all that was then required; and as pillars sufficed, and were the most convenient mode of effecting this, they were generally adopted for the purpose. The walls were merely subordinate screens, and a description of the orders, as they were called, or, in other words, of pillars with the bases and entablatures, constituted the whole science of decorative architecture. With the introduction, however, of stone roofs, constructed on this principle, the case became widely different. Pillars no longer sufficed, and walls of greater or less thickness, or piers which were massive fragments of walls, were introduced, and the whole style of decoration and construction altered to suit this new exigency—that of constructing a building whose roof should be composed of the same materials as its walls.

The Roman roofs were of two kinds: the one domical, or circular both in plan and section; the other either a plain tunnel-vault, or a continuous vault of the same sort, intersected by smaller or similar vaults cutting into the principal one at right angles. The Pantheon at Rome[1] is the typical example of the first, the Basilica of Maxentius[2] of the last class of vaults. The latter generally were considered as the most convenient, inasmuch as the rooms they covered were rectangular in plan, which is always an advantage for an interior, and they might be in any proportion of width to length that might be desired. The former at first were confined to circular apartments; by degrees, however, men learnt, by the use of pendentives (as will be explained in the chapter on Byzantine art), and by other expedients, to place domes first on square, and then on rectangular apartments, and by this means they formed roofs which surpass in beauty any of those constructed on the rectangular principle.

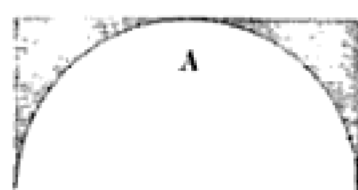
In the division of the Roman empire and Roman art the dome fell to the share of the eastern half, the rectangular vaults to the western half of the empire: both worked them out in their own peculiar fashion till they wholly lost all trace of their Roman origin, but neither ever practically interfered with the heritage of the other—the dome in Western Europe being rare and exceptional, and never an essential part of the style, while the rectangular vault is as rare in the East, and quite as little an integral part of their mode of decoration. So far as we can now form an opinion, the eastern nation had by far the noblest share, and took the element of Roman art which was most capable of being elaborated into forms of beauty. They never, how-

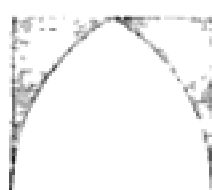
[1] Woodcut, p. 311 *et seq.*

[2] P. 320 *et seq.*

ever, had either the power or the energy of the western people, and the result perhaps is that the inferior element is worked into more forms of beauty than the nobler one, but this is certainly not always the case, though it is so often enough to make us regret the strange neglect of this wonderful invention of the dome by our Gothic forefathers.

Before much progress had been made in the practice of this new art of roofing, both nations found themselves forced to abandon the semicircular arch, and to adopt either the pointed one or some stilted or analogous form. In the West it was the exigencies of vaulting that induced the architects to adopt so universally as they did the broken arch instead of the continuous one. This is now generally admitted; but it is not so well understood why in the East it should also have come into such general use. A little reflection, however, will show how difficult it is to adopt the curves of a pendentive to a circular arch, and how weak the arrangement is when it is done, the upper curves at A in the annexed diagram (Fig. 1) being actually evanescent points







310. FIG. 1. FIG. 2. FIG. 3.

of no thickness in some parts, if properly carried out. With a pointed arch, however (Fig. 2), even when the pendentives follow its lines, there is some thickness in every part, and no curve need slope forward at a greater angle than 45 degrees. The eastern pointed arch is always, from this cause I believe, straight-lined at the summit. But if, as in the third example, the architects were content to reduce the square on the ground, first to an octagon at the springing of the roof, and then, by cutting off the angles, to a polygon of 16 sides, on which a circle easily rests, with the assistance of the pointed arch, the whole becomes so constructively correct that no difficulty is experienced, even in domes of very great span, while the same arrangement with circular arches would have been both weak and awkward.

Still it is scarcely probable that the Saracenic architects would have used this form so early and so generally as they did, if it was not a usual and customary shape of arch in the East at the time when they first began to build. There is every reason to suppose that this was the case; and that from the time of the building of the sepulchral chambers at Mycenæ to the Christian era there is no difficulty in tracing it in Greece, in Etruria, and in Asia Minor, wherever a Pelasgic or Oriental people are found. In the older examples it is always constructed horizontally, in which form it is familiar and frequent (as at Assos, woodcut No. 198) as an ornamental style of opening.

It is found in the pyramids of Meroë (as before mentioned, page 250),

as old as 8 centuries before Christ, and Sir Gardner Wilkinson[1] has pointed out its frequent use in the Christian churches of the Thebaid before the era of the Hejra. It is true that, wherever the influence of Rome was thoroughly established, we find during the period of their domination nothing but circular arches; but it is not a little curious to find the pointed shape in the earliest Christian church of which we have any knowledge—the one built in the age of Constantine over the tomb of our Saviour at Jerusalem. There the older Oriental form reappears, so timidly, it is true, as almost to escape observation, but still showing how readily an Eastern people return to ancient habits and feelings as soon as the oppressing hand is removed. Other examples of this age exist, I believe, at Diarbekr, and at other places in that country; but they have neither been looked for, nor, when seen, examined with the care they deserve. Pointed arches reappear in the aqueducts of Justinian at Constantinople, and evidently were becoming or had become a current feature of architectural decoration at the time of the great Moslem irruption. If no other proof of this existed, the fact that the Saracenic architects used them almost exclusively from the first ought to be sufficient to establish the fact. They are found in the oldest part of the mosque which Amrou built at Fostat, or Old Cairo, in the middle of the 7th century. No others are used constructively in the great mosque el Aksah built at Jerusalem at the end of that century; and in the mosque of Ebn Touloun at Cairo, erected in the 9th century, the pointed arch is an essential and perfectly established element of art, wholly superseding the round arch, or anything approaching to it. It is true we still want examples to connect these two points in its history. A little research will no doubt supply this, but for our present purpose it is sufficient to know that this form of arch was used by the first Saracenic architects a few years after the commencement of the Moslem domination, and that during the 9th century of our era it had become as essential a part of that art as it was of Christian art in France in the 13th century.

[1] In a paper read at the Royal Institution of British Architects, July 16, 1849. Sir Gardner was then abroad, and was not, I believe, aware that I had read a paper on the same subject, attempting to prove the same facts, on the 18th of the previous month.

CHAPTER II.

SYRIA AND EGYPT.

CONTENTS.

Mosques at Jerusalem — El Aksah — Mosque at Damascus — Egypt — Mosques at Cairo — Other African buildings — Mecca.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
The Hejra	A.D. 622	Ebn Touloun at Cairo	A.D. 876
Caliph Omar builds mosque at Jerusalem	637	El Azhar	981
Amrou—mosque at Old Cairo	642	Sultan Barkook	1149
Abd el Malek builds El Aksah, at Jerusalem	691	Kaloun	1284
Caliph Walid builds mosque at Damascus	705	Sultan Hassan	1356

As before mentioned, the earliest mosque of whose existence we have any record was that built by Mahomet himself at Medina. As, however, it contained apartments for his wives, and other rooms for domestic purposes, it might perhaps be more properly denominated a dwelling-house than a mosque. Indeed sacred buildings, as we understand them, seem to have formed no part of the scheme of the Mahometan religion. The one temple of this faith was the Kaabah at Mecca, towards which all believers were instructed to turn when they prayed.

When, however, the Mahometans came among the temple-building nations, they seem early to have felt the necessity of some material object—some visible monument of their religion; and we find that Omar, when he obtained possession of Jerusalem, in the 15th year of the Hejra, felt the necessity of building a place of prayer towards which the faithful might turn, or rather which should point out to them the direction of Mecca.[1] Consequently we read that, while he respected the Christian sacred buildings with the most scrupulous fidelity to the terms of the treaty, he erected a small place of worship within the precincts of the Jewish temple, on that spot where Julian the Apostate had previously attempted to re-edify that building, and which was then neglected and held accursed by the Christians.

That mosque now exists among the adjuncts of the Aksah, though whether it be the building now known as the mosque of the Mogrebins,

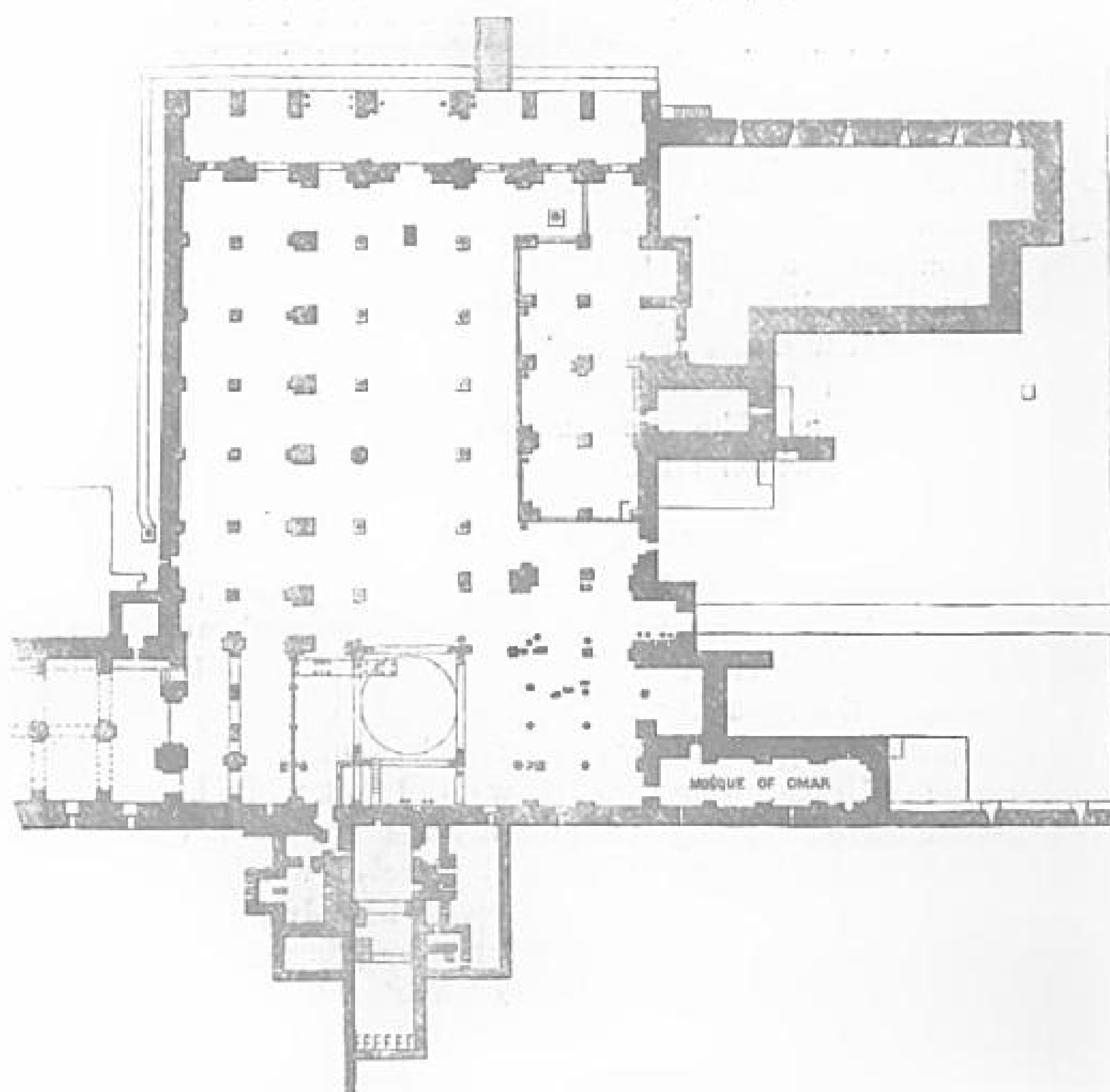
[1] For the particulars of the building of the mosque, I must refer the reader to my work on the Ancient Topography of Jerusalem, where he will find them stated at length.

or the small cell which still bears Omar's name (see woodcut No. 311), to the eastward of the mosque, may be disputed: my own impression is that the latter is most probably the spot.

As might be expected from the simplicity of the Caliph's character, his poverty, and his hatred of everything like ostentation, this mosque is a very simple building, being merely a plain vaulted cell, about 18 ft. wide by nearly 80 in length; it may, however, have extended a little farther westward originally, and a portion of it may have been cut off when the neighbouring Aksah was built, and included within its walls.[1]

The only other mosque of this age of which we have any knowledge is that erected by Amrou at Old Cairo in Egypt, in the 21st year of the Hejra.

The troubles that succeeded the murder of Ali and his sons seem to have been singularly unfavourable to building or any of the arts of peace during the next half-century, and no record has yet been brought to light of any important building erected during that period. In the 69th year of the Hejra, Abd el Malek, the Caliph of Damascus,

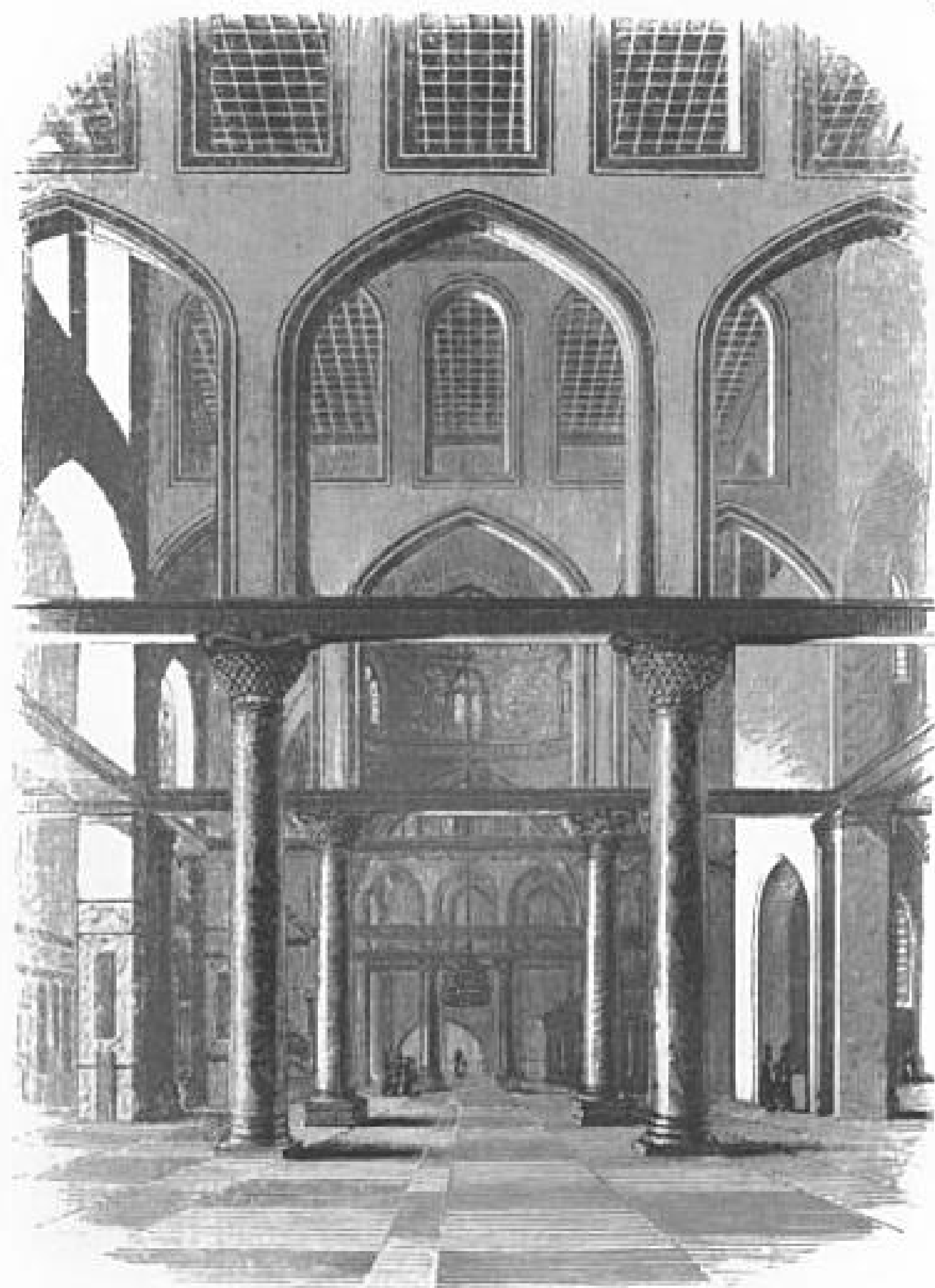


311. Plan of the Mosque el Aksah at Jerusalem. Scale 100 ft. to 1 in.

[1] The mosque of the Mogrebins is a plain vaulted apartment, 25 feet by 173.

determined to erect a mosque at Jerusalem. His objects were to set up that city as a place of pilgrimage in opposition to Mecca, which was then in the possession of a rival, and to carry into effect what was at one time understood to have been the intention of Mahomet—of choosing the temple of Jerusalem instead of that of Mecca as the holy place of his new religion. These ulterior purposes were never carried out, in consequence of the violent opposition which the project met with from the Jews.

The mosque which Abd el Malek erected still remains tolerably unaltered to the present time, and fortunately the enterprise and industry of three Englishmen[1] have enabled us to speak correctly as to its plans and details. The plan (woodcut No. 311) will show that it is in fact a Christian basilica of 7 aisles, and of considerable dimensions, being 184 ft. wide by 272 in length over all, thus covering about 50,000 square ft., or as much as many of our cathedrals. It has a pórch which seems to have been a later addition, and has not the usual square court in front, which was an almost invariable accompaniment of



312. View in the Mosque el Aksah at Jerusalem.

[1] I refer, of course, to Messrs. Catherwood, Arundale, and Bonomi. Had the English public shown the least degree of interest in these researches, they would have been published long ago; but this not being the case, I must again refer to slight reductions of them contained in my work on Jerusalem.

Christian basilicas of that date, and still more so of mosques; indeed, these latter took their form from the gradual reduction of the depth of the church part of the arrangement, and the increase of the court, which eventually became the mosque itself.

"The interior is supported," says an Arab historian,[1] "by 45 columns, 33 of which are of marble, and 12 of common stone." These are all evidently taken from more ancient buildings. "Besides this there are 40 piers of common stone." Arculphus, a Christian monk, who saw it about a century after its erection, describes it as a square building, capable of containing about 3000 persons, and mentions the curious peculiarity of the pillars being connected by beams, showing that the construction was then the same as we see now, as is shown in the woodcut (No. 312), which is a view taken across the southern end of the building. The pier arches are pointed throughout, but above this is a range of openings with circular heads.

Taken altogether, it certainly is historically one of the most interesting buildings of its age; and it is very much to be regretted that apathy should prevent its being more fully illustrated than it has been.

Mosque at Damascus.

Another building of the same age, but of even greater interest, is the great mosque at Damascus, at one time the Church of St. John. For more than half a century after the capture of the city by the Moslems it remained in the possession of the Christians. At that time (A.D. 705) it was ceded to the Caliph Walid, the successor of the builder of the Aksah.

According to Jelal u deen,[2] the church of St. John remained the joint property of the Christians and Moslems, both praying together in it, or, at least, on the east and west sides of a partition run through it, from the fall of the city in the year of the Hejra 14 to the time of the Caliph Walid in the year 86. He either offered the Christians 4 desecrated churches in exchange for it, or threatened to deprive them of one which they held on sufferance. As soon as this matter was settled, it is said, he pulled down the Christian church, or at least part of it, and in 10 years completed the present splendid mosque on its site, having first procured from the emperor at Constantinople fit and proper persons to act as architects and masons in its construction. Although, therefore, it may differ in arrangement from Christian churches of that age, it may, as far as detail is concerned, be considered as a specimen of Byzantine architecture of the beginning of the 8th century, or, in other words, of the Eastern architecture of that age—for there were not yet two styles when it was erected.

From a MS. plan brought home by Mr. Porter it appears that the mosque itself has three great aisles nearly 500 ft. long, running east and west, separated from one another by pillars borrowed from the earlier Christian or Pagan temple which stood on this spot. Their continuity is broken in the centre by a transept raised higher than the rest, and supporting a small dome in its centre.

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[1] Mejr ed Deen. Fundgruben des Orients, vol. ii. p. 83.

[2] History of Jerusalem, translated by the Rev. M. Reynolds, p. 409 *et seq.*

The south wall has the usual niches (Mirhab) to indicate the direction of Mecca, and above these a range of circular-headed windows, running the whole length of the mosque. To the north the mosque opens by a series of arches supported on pillars into a court-yard about 500 ft. long, by half that in width, surrounded by a colonnade on three sides—the whole apparently consisting of Christian materials, but entirely re-arranged by the Mahometans.

With these two mosques our list of Syrian edifices closes—not that others do not exist, but simply because no one has yet either examined or described them. From the time of the Caliph Walid to the epoch of the Crusades, Syria was a great and wealthy country, and all its more important cities must have been provided with places of prayer, many of which still, no doubt, remain; and since the time of the Crusades many more must have been erected, but these, too, are equally unknown to us; so that, for the present at least, the information does not exist from which this chapter in the history of architecture can be written.

EGYPT.

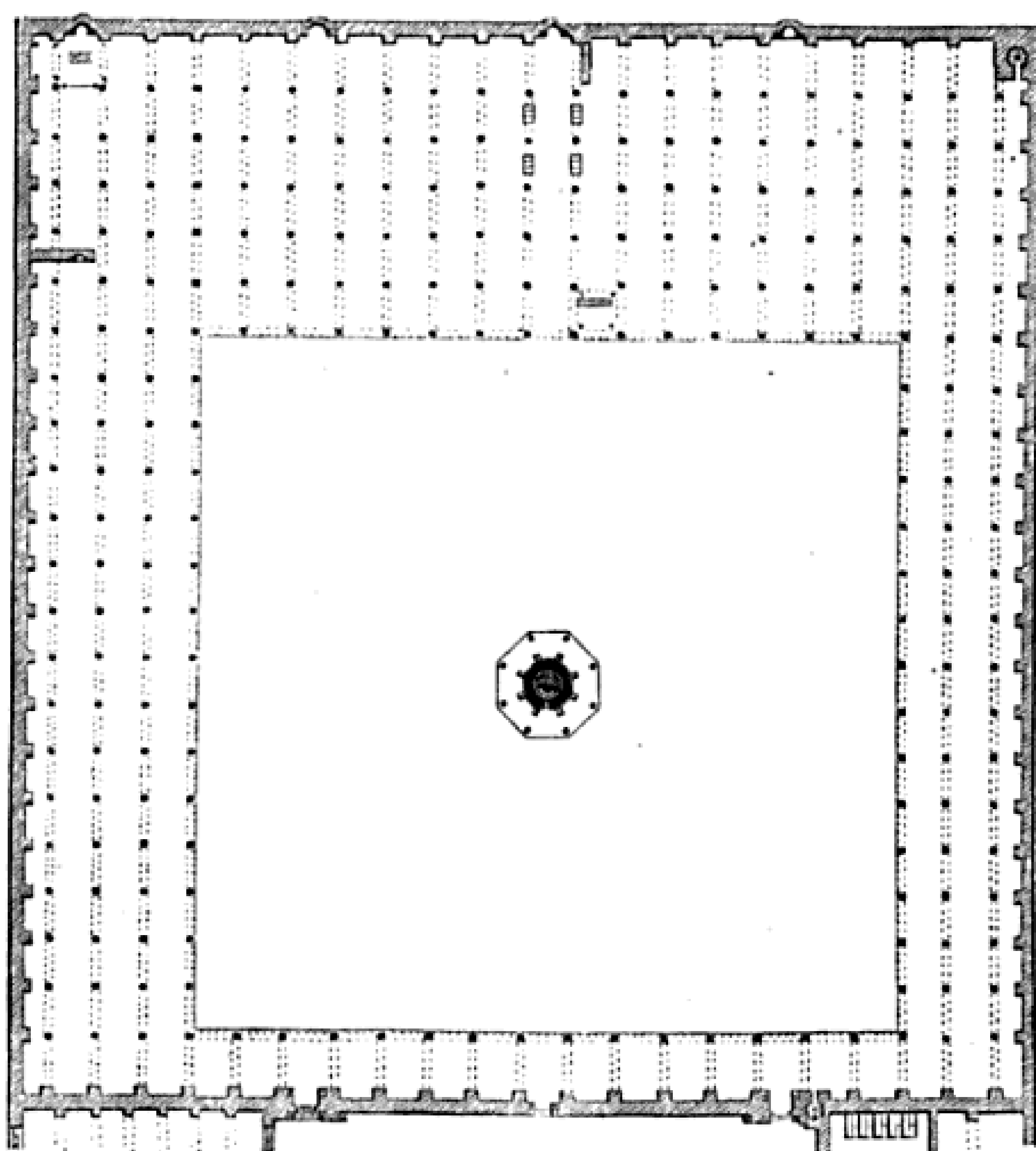
In Egypt our history begins with the mosque which Amrou in the 21st year of the Hejra (642 A.D.) erected at Old Cairo; its original dimensions were only 50 cubits (75 ft.) long, by 30 cubits, or 45 ft. wide. Edirey[1] says that it was originally a Christian church which the Moslems converted into a mosque, and its dimensions and form certainly would lead us to suppose that, if not so, it was at least built after the pattern of the Christian churches of that age. As early however as the 53rd year of the Hejra it was enlarged, and again in the 79th; and it apparently was almost wholly rebuilt by the two great builders of that age, Abd.el Malek and Walid, the builders of the mosques of Jerusalem and Damascus.

It probably now remains in all essential parts as left by these two Caliphs, though frequently repaired, and probably in some parts altered by subsequent sovereigns of Egypt. In its present state it may be considered as a fair specimen of the form mosques took when they had quite emancipated themselves from the Christian models, or rather when the court before the narthex of the Christian church had absorbed the basilica, so as to become itself the principal part of the building, the church part being spread out into a mere deep colonnade, and its three apsidal altars modified into niches pointing towards the sacred Mecca.

As will be seen from the plan, it is nearly square, 390 ft. by 357 ft., consisting of a court-yard, 255 ft. square, surrounded on all sides by porticoes, supported by 245 columns taken from older edifices of the Romans and Byzantines. These are joined together by brick arches of circular form,[2] tied at their springing by wooden beams, as in the

[1] Translated by M. Jaubert, tom. i. p. 303. The particulars of this description are taken from M. Girault de Prangey, Monumens Arabes, compared with M. Coste's Edifices de Caire.

[2] M. Coste makes all these arches pointed. M. de Prangey states that they are all circular; the truth being that they are partly one, partly the other.



313. Mosque of Amrou, Old Cairo. From Coste's Architecture Arabe. Scale 100 ft. to 1 in.

Aksah, and covered by a wooden roof. All this part of the mosque, however, has been so often repaired and renovated, that little probably of the original decoration remains.



314. Arches in the Mosque of Amrou. From G. de Prangey's work.

Of the original mosque, or perhaps church, the only part that can with certainty be said to remain is a portion of the outer wall, represented in woodcut No. 314, which possesses the peculiarity of being built with pointed arches, similar in form to those of el Aksah at Jerusalem. They are now built up, and must have been so at the time of one of the earlier alterations; still they are from their undoubted antiquity a curious contribution to the much-contested history of the pointed arch. The whole mosque is now in a sad state of degradation and decay, notwithstanding the beautiful climate of Egypt, arising principally from its original faulty construc-

tion. Owing to the paucity of details, many of M. Coste's restorations must be taken as extremely doubtful.

From the time of the great rebuilding of the mosque of Amrou under Walid, there is a gap in the architectural history of Egypt of nearly a century and a half, during which time it is probable that no really great work was undertaken in it, as Egypt was then a dependent province of the great Mahometan empire. With the recovery, however, of something like independence, we find one of its most powerful rulers, Ebn Touloun, erecting a mosque at Cairo, which, owing to its superior style of construction, still remains in tolerable perfection to the present day.

As usual, tradition ascribes the design to a Christian architect, who, when the Emir declined to use the columns of desecrated churches for the purposed mosque, offered to build it entirely of original materials. He was first thrown into prison from the machinations of his rivals, and ill-treated; but at last, when they found they could not dispense with his services, he was again sent for, and his design carried out.[1]

Be this as it may, the whole style of the mosque shows an immense advance on that of its predecessor, all trace of Roman or Byzantine art having disappeared in the interval, and the Saracenic architecture appearing here complete in all its details, every part originally borrowed from previous styles having been worked up and fused into a consentaneous whole. Whether this took place in Egypt itself during the century and a half that had elapsed is by no means clear; but it is more than probable that the brilliant Courts of Damascus and Bagdad did more than Egypt towards bringing about this result. At all events, from this time we find no backsliding; the style in Egypt at last takes its rank as a separate and complete architectural form. It is true, nevertheless, that in so rich a storehouse of materials as Egypt, the architects could not always resist appropriating the remains of earlier buildings; but when they did this, they used them so completely in their own fashion, and so worked them into their own style, that we do not at once recognise the sources from which they are derived.

To return however to the mosque of Touloun. Its general arrangement is almost identical with that of the mosque of Amrou, only with somewhat increased dimensions, the court being very nearly 300 ft. square, and the whole building 390 ft. by 455 ft. No pillars whatever are used in its construction, except as engaged corner shafts; all the arches, which are invariably pointed, being supported by massive piers. Two ranges of these arcades surround 3 sides of the court, while on that towards Mecca there are 5; but with this peculiarity, that, instead of the arcades running parallel to the side, as in a Christian church, or in the mosque of Amrou, they run across the mosque from east to west, as they always did in subsequent examples.

The whole building is of brick, covered with stucco; and fortu-

[1] See Coste's Edifices de Caire, p. 32, quoting from Mackrisi.

nately almost every opening is surmounted by an inscription in the old form of Cufic characters, which were then used, and only used about the period to which the mosque is ascribed, so that there can be no doubt as to its date. Indeed, the age both of the building itself, and of all its details, is well ascertained.

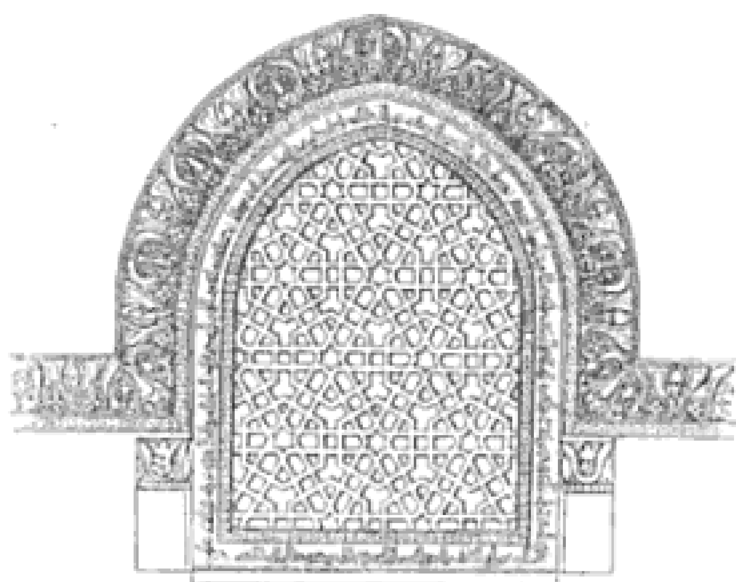


315. Mosque of Ebn Touloun at Cairo. From Coste's Architecture Arabe.

The woodcut No. 315 will explain the form of its arcades, and of the ornaments that cover them. Their general character is that of rude and massive simplicity, being the counterpart of our own Norman style in England. A certain element of sublimity and power, in spite of occasional clumsiness, is common to both these styles. Indeed,

excepting perhaps the Hassanee mosque, there is perhaps no mosque in Cairo so imposing and so perfect as this, though it possesses little or nothing of that grace and elegance which we are accustomed to expect in this style.

Among the more remarkable peculiarities of this building is the mode in which all the external openings are filled with that peculiar sort of tracery which became as characteristic of this style as Gothic tracery was of the windows of our churches five centuries afterwards. With the Saracens the whole window is filled with it, and the interstices are small and varied; both which characteristics are appropriate when the window is not to be looked out of, or when it is filled with painted glass; but of course they are utterly unsuitable to our purposes. Yet it is doubtful, even now, whether the Saracenic did not excel the Gothic architects, even in their best days, in the elegance of design and variety of invention displayed in the tracery of their windows. In the mosque of Ebn Touloun it is used as if an old and perfected invention, and with the germs of all those angular and flowing lines which afterwards were combined into such myriad forms of beauty.



316. Window in Mosque of Ebn Touloun.

It is possible that some future researches may bring to light a building 50, or even 100 years earlier than this, which may show nearly as complete an emancipation from Christian art as this; but for the present, it is with the mosque of Touloun that we must date the complete foundation of the new style. Although there is considerable difficulty in tracing the history of the style from the erection of the mosques of Damascus and Jerusalem to that of Touloun, there is none from that time onwards. Cairo alone furnishes nearly sufficient materials for the purpose.

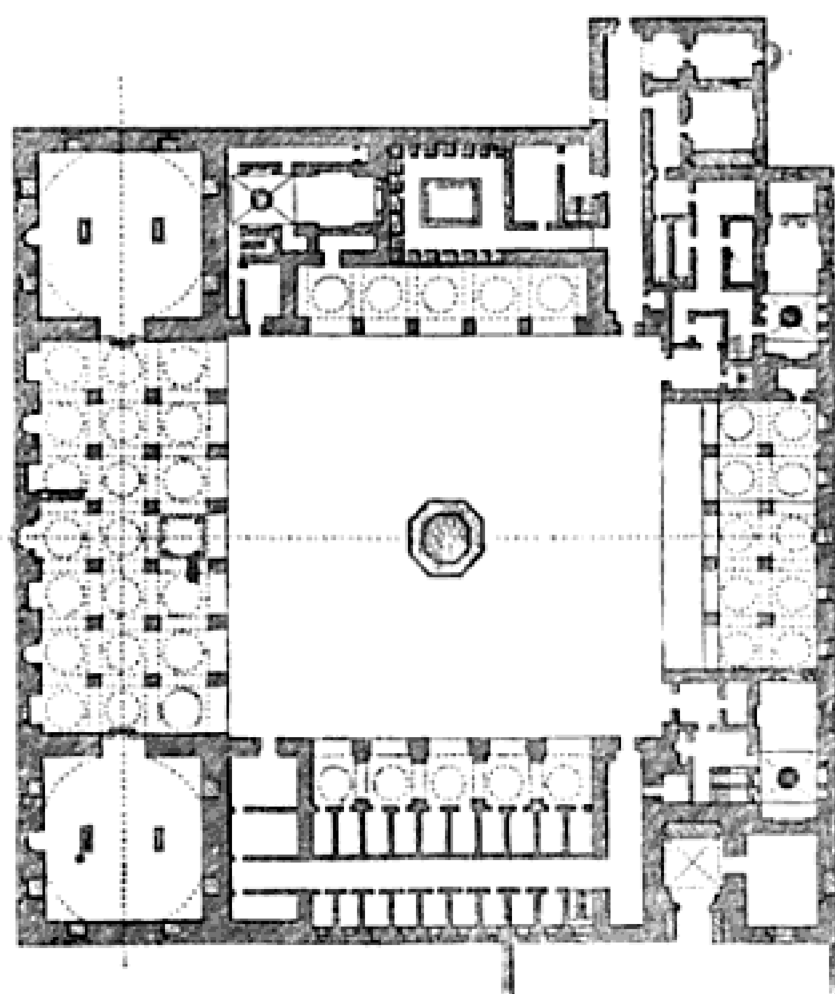
The next great mosque erected in this city was El Azhar, or "the splendid," commenced in the year 981, or about a century after that of Touloun, and, though certainly a very magnificent building showing a great advance in elegance of detail over the last named, is far from being so satisfactory, owing to the introduction of ancient pillars in parts, and to masses of walls being placed on them, only suited to such forms as those used in the mosque of Touloun.

The buildings during the next century and a half are neither numerous nor remarkable for their size, though progress is very evident in such examples as exist; and in the middle of the 12th century we find the style almost entirely changed.

One of the finest buildings of the last age is that which Sultan Barkook built without the walls of Cairo (A.D. 1149), which, besides a mosque, contains an additional feature in the great sepulchral cham-

bers, which are in fact the principal part of the edifice, betraying the existence of a strong affinity to the tomb-building races in the rulers of Egypt at that time.

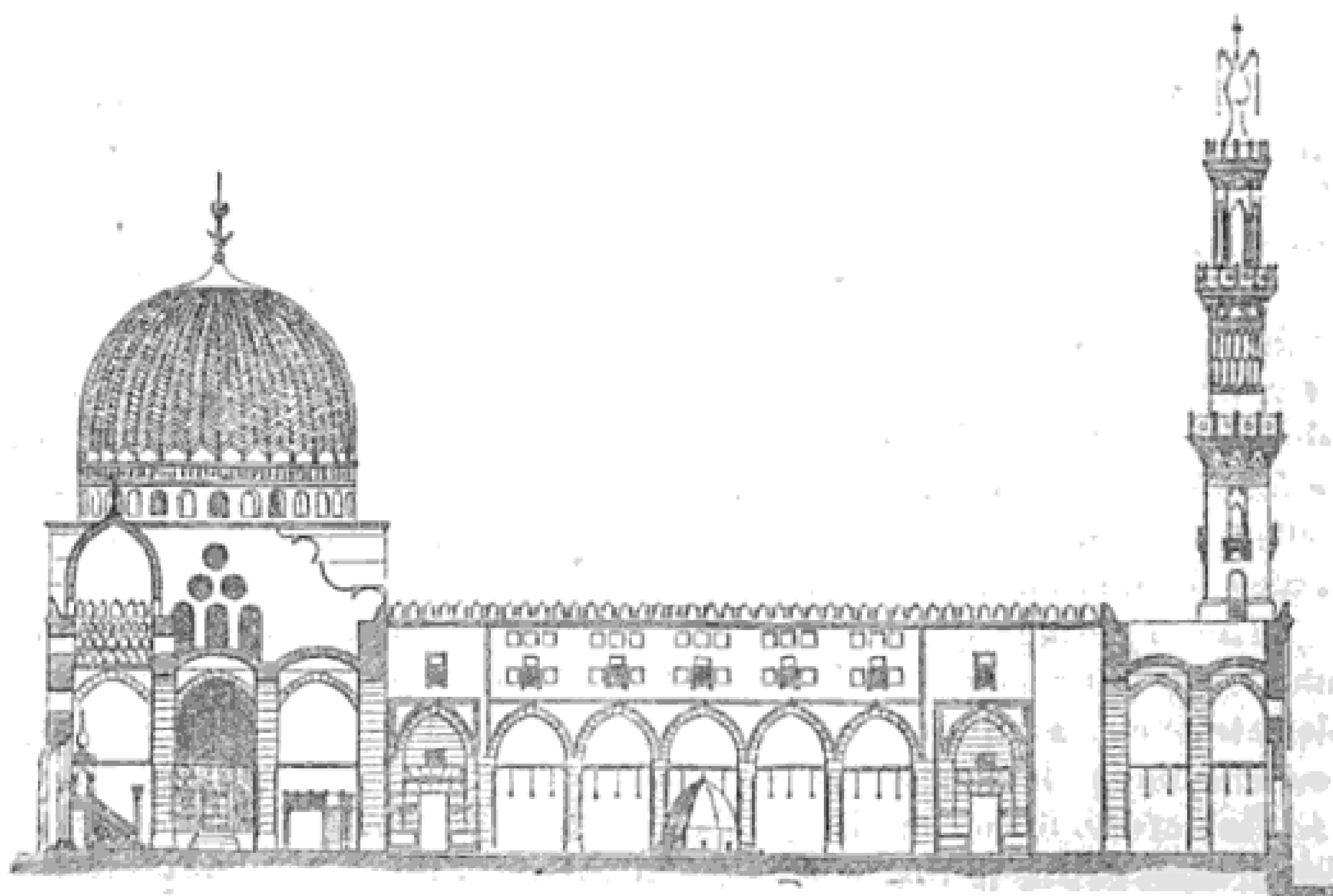
The plan and section (woodcuts Nos. 317 and 318), though small, will show the state to which the art had at that period arrived in Egypt. The pointed arch, as will be observed, is used with as much lightness and elegance as ever it reached in the West.



317. Plan of Mosque and Tombs of Sultan Barkook. From Coste. Scale 100 ft. to 1 in.

The dome has become a most graceful and elaborate appendage, forming not only a very perfect ceiling inside, but a most imposing ornament to the exterior. Above all, the minaret has here arrived at as high a degree of perfection as it ever reached in any after age.

The oldest known example of this species of tower is that of the mosque of Ebn Touloun, but it is particularly ungraceful and clumsy. The minaret in that of Amrou was probably an addition of a later age. Those

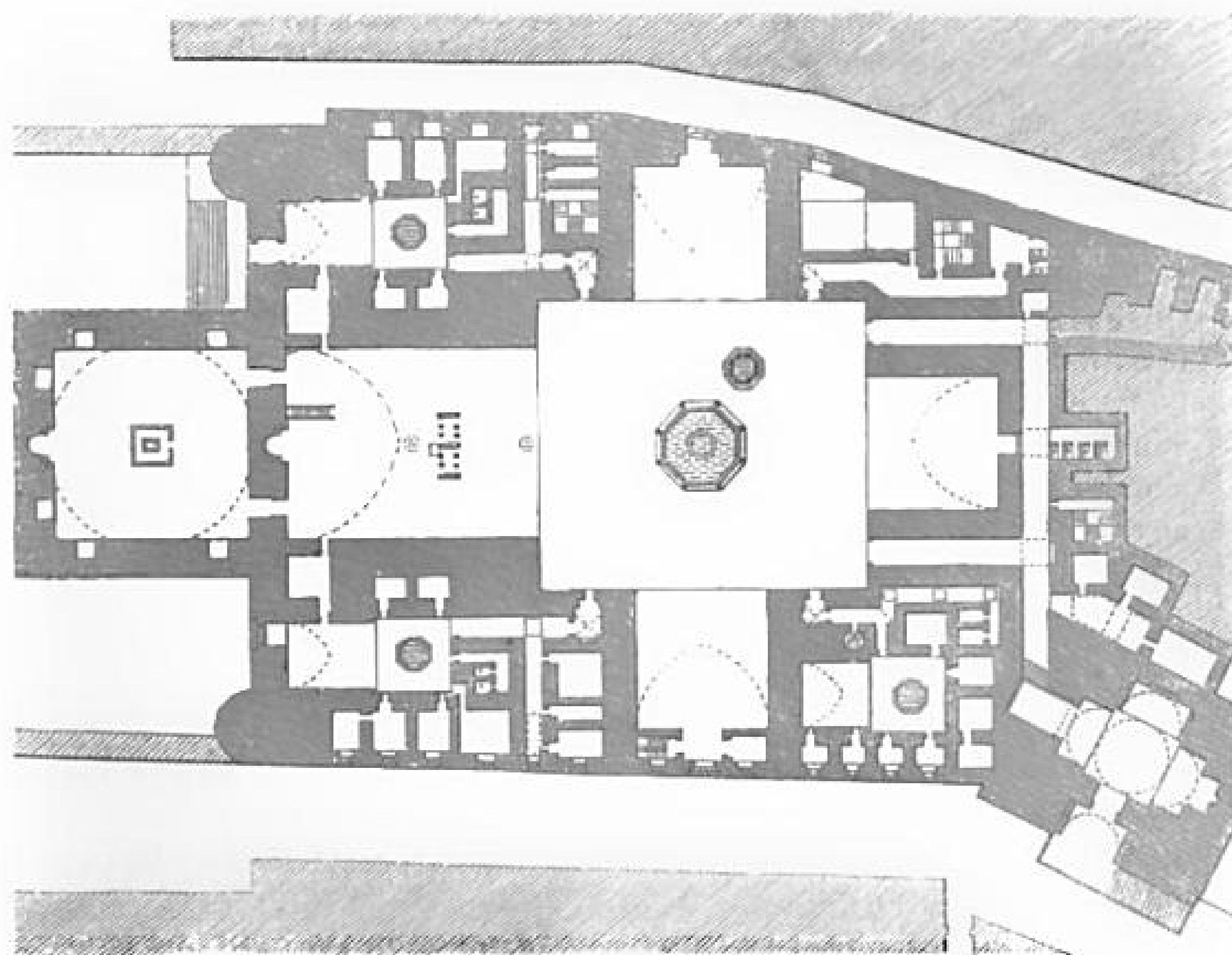


318. Section of Mosque of Barkook. From Coste's Architecture Arabe.

of the Azhar, which are probably of the date of that mosque, almost equal the one represented in the woodcut; but it is only here that they seem to have acquired that elegance and completeness which render them perhaps the most beautiful form of tower architecture in the world. Our prejudices are of course with the spires of our Gothic churches, and the Indians erected some noble towers; but taken altogether, it is doubtful if anything of its class ever surpassed the beauty and elegance of the minarets attached to the mosques during this and the two or three subsequent centuries.

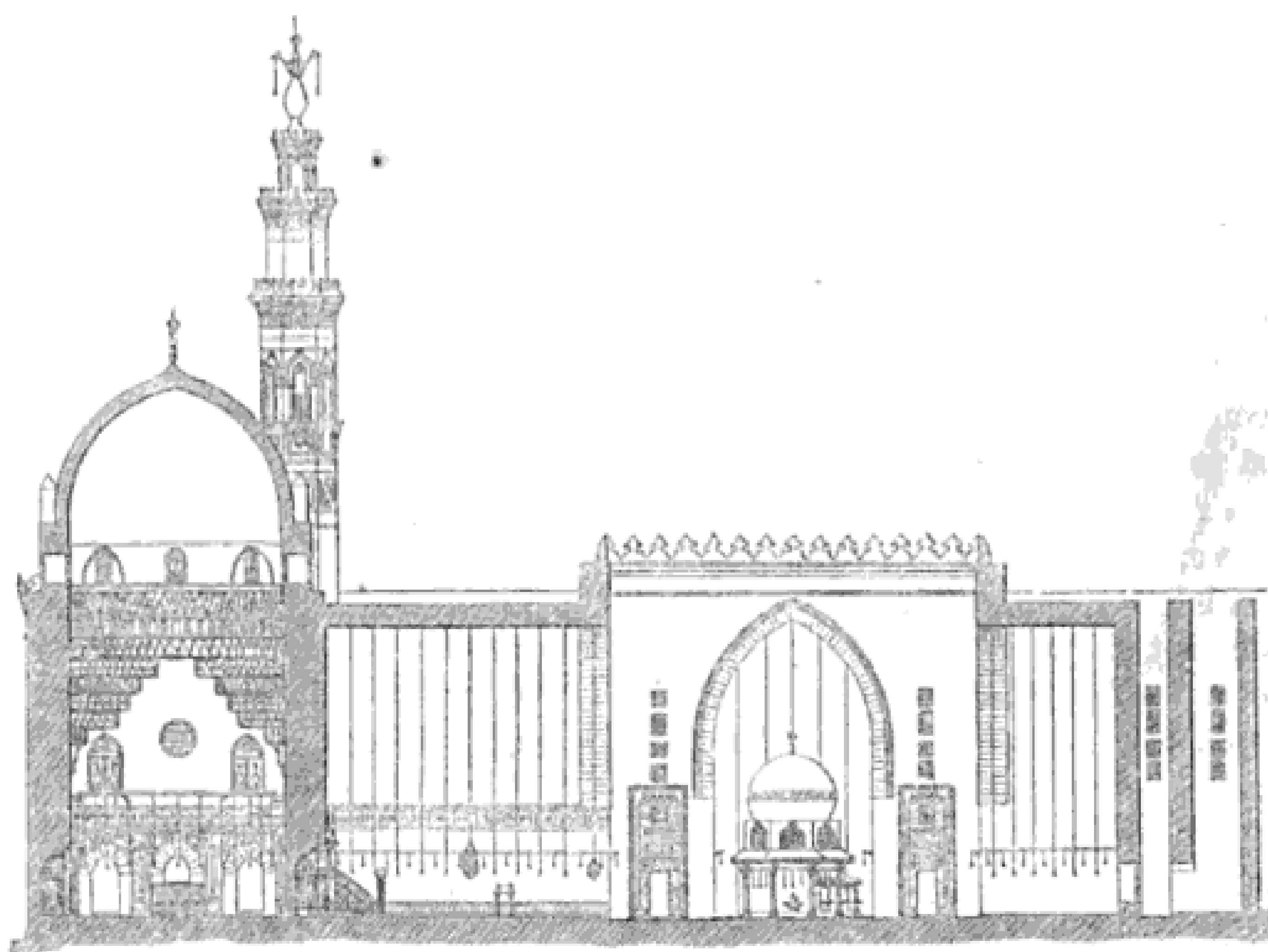
The mosque of Kaloun, and the hospital attached to it (A.D. 1284), are both noble buildings, full of the most elegant details, and not without considerable grandeur in parts. In all except detail, however, they must yield the palm to the next great example, the mosque with which the Sultan Hassan adorned Cairo in the year 1356. In some respects it is one of the most remarkable mosques ever erected in any country, and differs considerably from any other with which we are at present acquainted.

As will be seen from the plan (woodcut No. 319), its external form is very irregular, following on all sides the lines of the streets within which it is situated. This irregularity, however, is not such as to detract from its appearance, which is singularly bold and massive on every side; the walls being nearly 100 ft. in height, and surmounted by a cornice, which adds 13 ft. to this, and projects about 6 ft. This great height is divided into no less than 9 stories of small apartments;



319. Mosque of Sultan Hassan. From Coste's Architecture Arabe. Scale 100 ft. to 1 in.

but the openings are so deeply recessed, and the projections between them so bold, that, instead of cutting it up and making it look like a factory, which would have been the case in England, the building has all the apparent solidity of a fortress, and seems more worthy of the descendants of the ancient Pharaohs than any work of modern times in Egypt.



320. Section of Mosque of Hassan, Cairo. Scale 100 ft. to 1 in.

Internally there is a court open to the sky, measuring 117 ft. by 105, enclosed by a wall 112 ft. in height. Instead of the usual colonnades or arcades, only one gigantic niche opens in each face. On three sides these niches measure 46 ft. square; but on that which faces towards Mecca, the great niche is 69 ft. wide by 90 in depth, and 90 ft. high internally. All 4 niches are covered with simple tunnel vaults of a pointed form, without either ribs or intersections, and for simple grandeur are unrivalled by any similar arches known to exist anywhere.

Behind the niche pointing towards Mecca is the tomb of the founder, square in plan, as these buildings almost always are, measuring 69 ft. each way, and covered by a lofty and elegant dome resting on pendentives of great beauty and richness. It is flanked on each side by two noble minarets, one of which is the highest and largest in Cairo, and probably in any part of the world, being 280 ft. in height, and of proportionate breadth. Its design and outline however are scarcely so elegant as some others, though even in these respects it must be considered a very beautiful example of its class.

One of the principal defects of the building is the position of its doorway, which, instead of facing the *kibla* or niche pointing towards

Mecca, is placed diagonally, in the street alongside of the building. It is a very beautiful specimen of architecture in itself; still its situation and the narow passages that lead from it to the main building detract most materially from the effect of the whole edifice, which in other respects is so perfect. It may have been, that ground could not be obtained for the purpose of placing the entrance in the right position; but more probably it was so arranged as a means of defence, the whole structure having very much the appearance of a fortalice, and being without doubt erected to serve that purpose, as well as being adapted for a house of prayer.

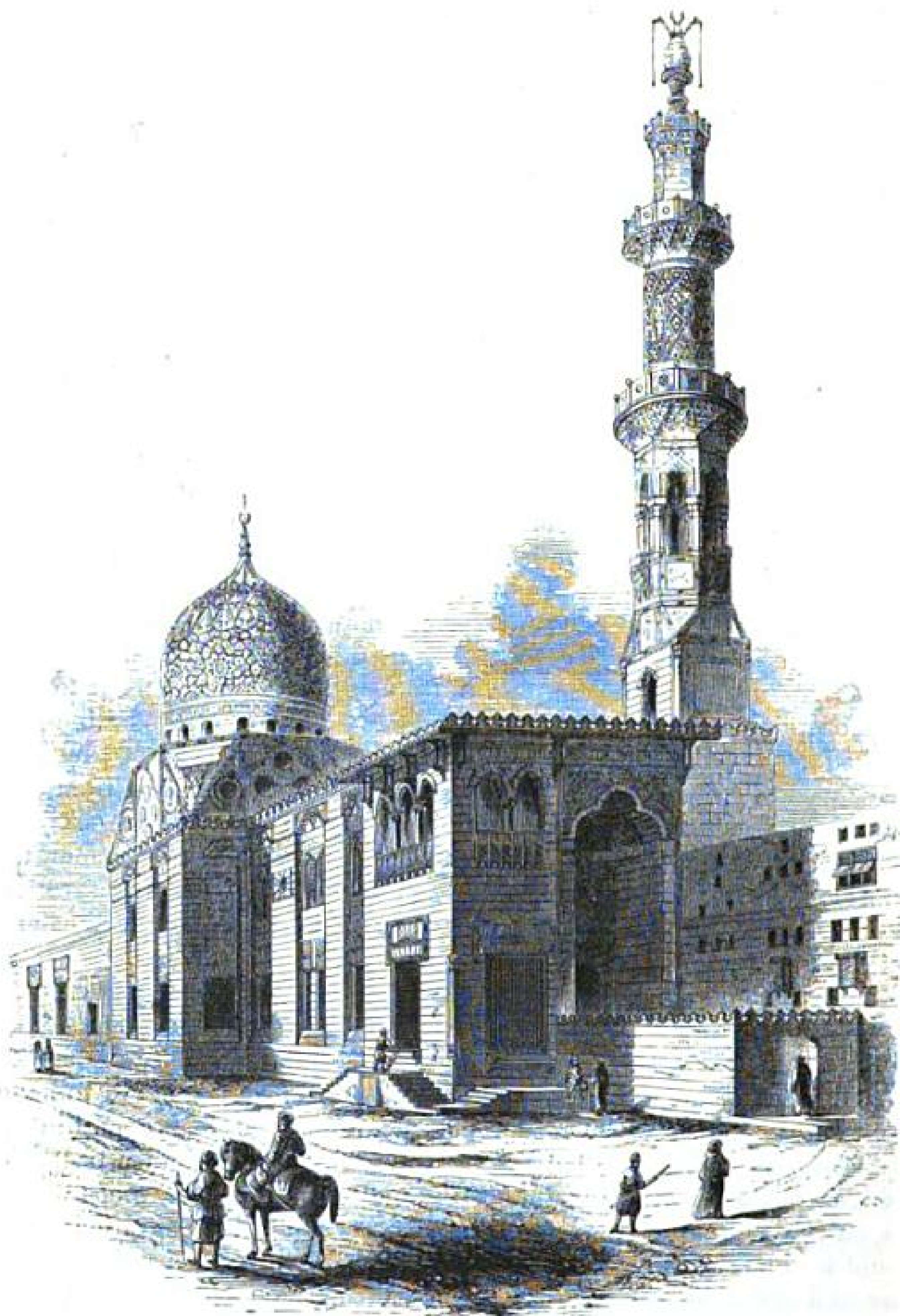
The mosque El Moyed, erected in 1415 A.D., is a singularly elegant specimen of a mosque with columns. Externally it measures about 300 ft. by 250, and possesses an internal court, surrounded by double colonnades on three sides, and a triple range of arches on the side looking towards Mecca, where also are situated—as in that of Barkook—the tombs of the founder and his family. A considerable number of ancient columns have been used in the erection of the building, but the superstructure is so light and elegant, that the effect is agreeable; and of the mixed mosques—or of those where ancient materials are incorporated—this is one of the most pleasing specimens.

Perhaps the most perfect gem in or about Cairo is the mosque and tomb of Kaitbey (woodcut No. 321), outside the walls, erected A.D. 1463. Looked at externally or internally, nothing can exceed the grace of every part of this building. Its small dimensions exclude it from any claim to grandeur, nor does it pretend to the purity of the Greek and some other styles; but as a perfect model of the elegance we generally associate with the architecture of this people, it is perhaps unrivalled by anything in Egypt, and far surpasses the Alhambra or the Western buildings of its age.

After this period there were not many important buildings erected in Cairo, or indeed in Egypt; and when a new age of splendour appears, the old art is found to have died out in the interval, and a renaissance far more injurious than that of the West is found to have grown up in the interval. In modern Europe the native architects wrought out their so-called restoration of art in their own pedantic fashion; but in the Levant the corresponding process took place under the auspices of a set of refugee Italian artists, who engrafted their would-be classical notions on the Moorish style with a vulgarity of form and colour of which we have no conception. In the later buildings of Mehemet Ali and his contemporaries we find the richest and most beautiful materials, used so as to make us wonder how men could so pervert every notion of beauty and propriety to the production of such discordant ugliness.

From its size and the beauty of the materials, the mosque erected by the late Pasha in the citadel of Cairo ought to rival any of the more ancient buildings in the city; but as it is, nothing can be worse or more uninteresting.

So little is known of the other buildings of Egypt and of the neighbouring countries, that for the present they must be passed over,



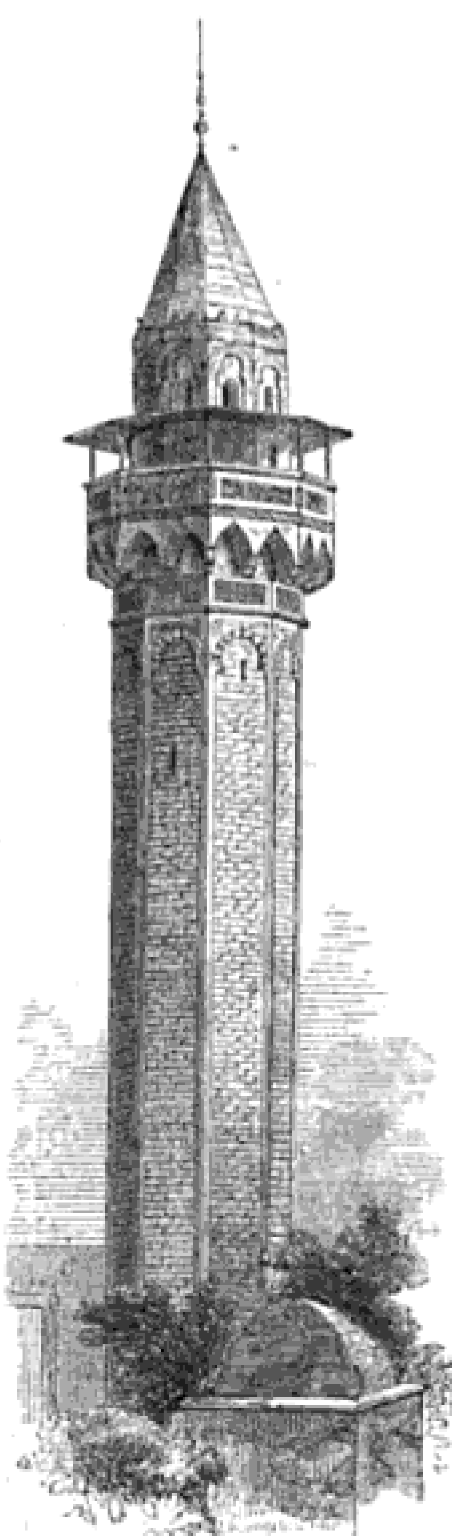
321. Mosque of Kaitbey. From Coste's Architecture Arabe.

though many of them are doubtless of great antiquity, and not without considerable pretensions to beauty and grandeur.

One of the most interesting of these is the mosque at Kairwan, which cannot well be passed over, as that city was long the capital of the African provinces of the empire of the caliphs; and it was thence that they conquered Sicily, and spread their religion into the centre of the great continent where it is located. The mosque was erected, or at least commenced, in the 1st century of the Hejra, and is built

principally from Roman remains found in the neighbourhood, but is now considered so sacred that no Christian is allowed to set foot within its precincts, so that all we have the means of knowing is that it is a worthy compeer of the contemporary mosques of Damascus and Cairo.

Tunis also possesses some noble edifices, not so old as this, but still of a good age; but, except the minaret represented in the annexed woodcut (No. 322), none of them have yet been drawn in such a manner as to enable us to judge either what they are, or what rank they are entitled to as works of art. This minaret is one of the finest specimens of a particular class. It possesses none of the grace or elaborate beauty of detail of those at Cairo; but the beautiful proportion of the shaft, and the appropriate half-warlike style of its ornaments, render it singularly pleasing. The upper part also is well proportioned, but has been altered to some extent in modern times. Unfortunately neither its age nor height is correctly known. It probably is 3 or 4 centuries old, and, with its contemporary the Hassanee mosque at Cairo, proves that the Saracenic architects were capable of expressing simple grandeur as well as elaborate beauty when it suited them to do so.



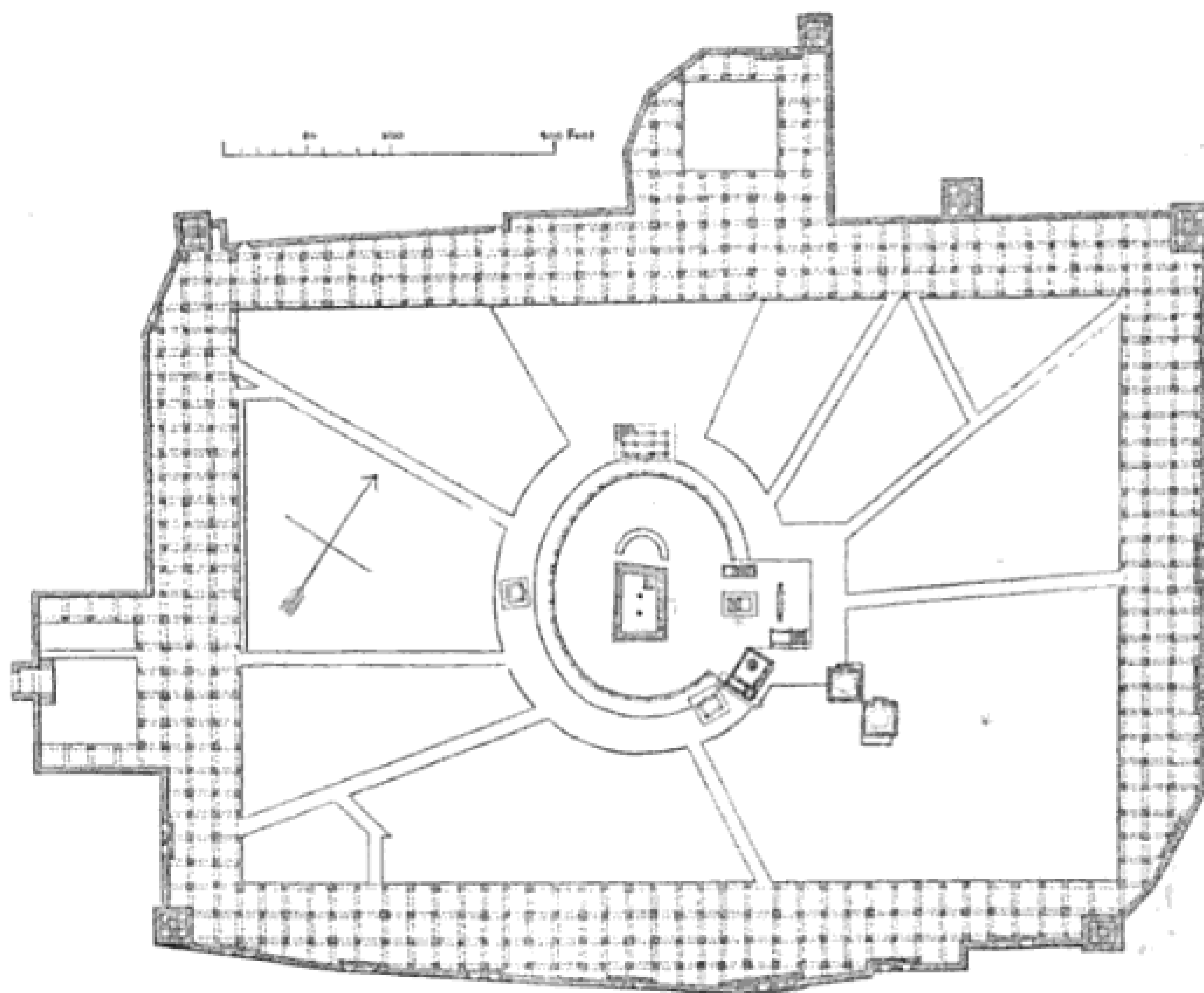
322. Minaret at Tunis. From Girault de Prangey.

Algeria possesses no buildings of any importance belonging to any good age of Moorish art. Those of Constantineh are the only ones which have yet been illustrated in such a manner as to be intelligible, and they scarcely deserve mention after the great buildings in Egypt and the countries farther east. I cannot help suspecting that some remains of a better age may still be brought to light; but the French archæologists seem to be wholly taken up with the vestiges of the Romans, and not to have turned their attention seriously to the more modern style, which it is to be hoped they soon will do. In an artistic point of view, at least, this is far more important than the few fragments of Roman buildings that still are left in that remote province.

MECCA.

As an appendix to this chapter, though scarcely strictly belonging to it, a plan is introduced of the celebrated temple at Mecca, more remarkable for its sanctity than for its architectural beauty. Such drawings as we possess hardly enable us to speak positively on this head, nor do they admit of our discriminating between the parts

erected at different ages; and unfortunately the very few Christians who have ever seen the interior were not possessed of the knowledge requisite to enlighten us on the subject.



323. Great Mosque at Mecca. From a plan by Ali Bey.[1]

The principal object here is of course the Kaabah, a small tower, nearly but not quite square in plan, the longer sides being 39 and 40 ft. respectively; the shorter 31 and 33 ft.; its height is 36 ft. The entrance is near one corner, at a height of 6 ft. from the ground. It is wholly without architectural ornament, and the upper part is covered by a black cloth, which is annually renewed. Next in importance to this is the Zemzem, or holy spring, which is said to have gushed out on this spot to the succour of Ishmael and his mother when perishing of thirst. These two objects are joined by a railing surrounding the Kaabah, except at one point, where it joins the Zemzem. The railing probably marks the enclosure of the old Pagan temple before Mahomet's time.

These, with some other subordinate buildings, now stand in a courtyard, forming a perfect rectangle internally of about 380 ft. by 570, surrounded by arcades on all sides. These vary considerably in depth, so as to accommodate themselves to the external outline of the building, which, as shown in the woodcut (No. 323), is very irregular. It is entered on all sides by 19 gateways, some of which are said to be of considerable magnificence, and it is adorned by 7 minarets. These are

[1] To get it within the page, the scale of the plan is reduced to 200 French or 214 English ft. to 1 in.

placed very irregularly, and none of them are of particular beauty or size.

On the longer sides of the court there are 36 arches, on the shorter 24, all slightly pointed. They are supported by columns of greyish marble, every fourth being a square pier, the others circular pillars.

Neither its ordinance, nor, so far as we can understand, its details, render the temple an object of much architectural magnificence. Even in size it is surpassed by many, and is less than its great rival, the temple of Jerusalem, which was 600 ft. square. Still it is interesting, as it is in reality the one temple of the Moslem world; for though many mosques are now reputed sacred and studiously guarded against profanation as such, this pretended sanctity is evidently a prejudice borrowed or inherited from other religions, and is no part of the doctrine of the Moslem faith, which, like the Jewish, points to one only temple as the place where the people should worship, and towards which they should turn in prayer.

CHAPTER III.

PERSIA.[1]

CONTENTS.

Historical notice — Imaret at Erzeroum — Mosque at Tabreez — Tomb at Sultanieh — Bazaar at Ispahan — College of Husein Shah — Palaces and other buildings.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
Arab conquest of Persia	A.D. 641	Mahomed Khodabendah, builder of tomb at Sultanieh, began to reign . . .	A.D. 1303
Haroun el Rasheed began to reign . .	786	Sufi dynasty	1499
Dynasty of Tartar Samanides	874	Abbas the Great, builder of Bazaar at Ispahan	1585
Seljukian dynasty	1037	Husein Shah, last of the Sufis	1694
Ghengis Khan	1205		
Ghazan Khan builds mosque at Tabreez .	1294		

Unfortunately for the completeness of our account of the Saracenic style, the architectural history of Persia is a complete blank for the first six centuries of the Hejra. Nothing remains of the ancient glories of Bagdad except a few fragments of the walls of the Madrissa, and perhaps one or two tombs. Bussorah and Kufa are equally destitute of any architectural remains of the great age of the Caliphs. Indeed, there does not seem to be one single mosque or building now to be found between the Euphrates and the Indus belonging authentically to the earlier centuries of the Mahometan era, and in such a state as would enable us to say what the style of those days was, or how far it resembled or differed from the contemporary styles in the neighbouring countries.

Much of this may be owing to our imperfect knowledge of the subject, but more perhaps to the fact of the Persians never having been temple-builders, and consequently never having possessed a monumental style capable of producing permanent buildings. For though the Achæmenians and Sassanians did produce some durable structures, it seems to have been under the direct influence of the Greeks and Romans, while all the native Assyrian and Babylonian dynasties were content to build with wood and mud, or some equally perishable materials. In consequence of this, if we except some buried fragments, all has perished; and of the architecture, properly so called, scarcely a vestige has come down to our time.

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[1] In speaking of Persia as one of the provinces into which Saracenic architecture is divided, it is necessary to include all the countries from the Euphrates to the Indus, thus comprising Mesopotamia and Armenia.

So it appears to have been with Bagdad in the days of its glory. The walls of the palaces seem to have been of sun-dried bricks, and the whole constructive parts of wood, covered, it may have been, with gold and silver plates, and painted with all the hues of the rainbow, but nevertheless perishable, and certain to go to decay as soon as the maintaining hand of a resident sovereign was withdrawn.

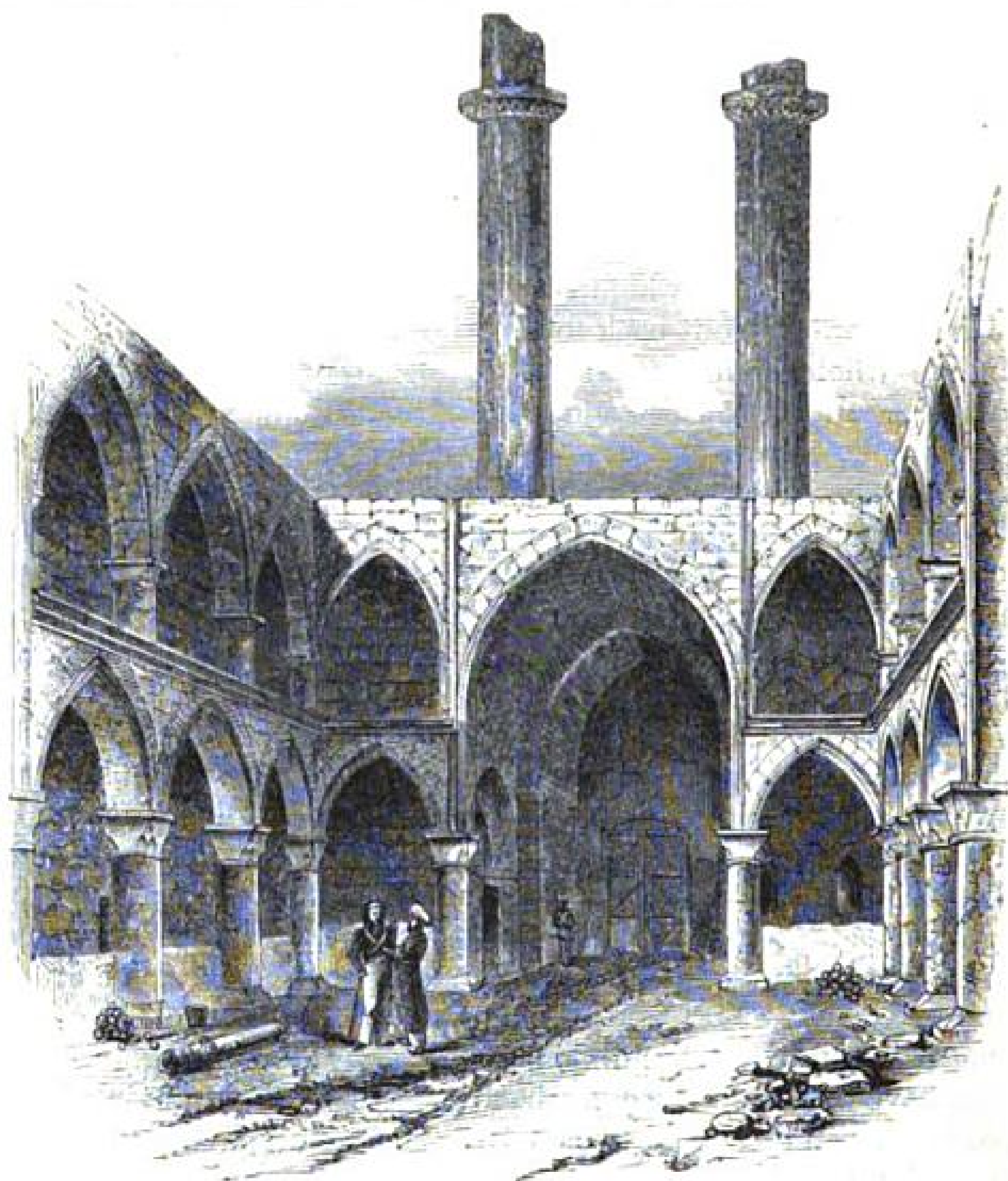
From what we know from history of the age of Haroun el Rasheed, it is probable that no Moorish court ever reached a higher pitch of enlightenment and magnificence than that of Bagdad during his reign (A.D. 786–809). It was also so far removed from the direct influence of the Byzantine style, that it is probable we should find in his buildings the germ of much which now comes abruptly before us without our being able to trace it back to its origin.

In the whole architectural history of the world there is scarcely so complete a break as this, and scarcely one so much to be lamented, considering how great and how polished the people were whose art is thus lost to us. Let us hope, however, that it is not entirely lost; but that some fragments may yet be recovered by the first who earnestly searches for them. But in the mean while we must pass on to the age of Ghengis Khan, in the middle of the 13th century, before we can find one certain example of Mahometan architecture in this important district.

With such imperfect materials it will of course be impossible to attempt anything like a continuous history of Persian architecture, but we must be content with illustrating two or three of the principal buildings; by which means we shall be able to define the style with sufficient distinctness, and explain all its leading characteristics, though without being able either to trace the origin of its peculiarities, or to point out in how far they influenced the style of other countries.

One of the earliest buildings of which anything like correct illustrations have been published is the Imaret or Hospital of Oulou Jami, at Erzeroum—an arcade of two stories, surrounding on three sides a court-yard 90 ft. by 45. It is broken in the centre by what in a Christian church would be called a transept. The woodcut here given (No. 324) shows the general appearance of the arcade, and also the upper part of two minarets which flank the external porch. This porch is ornamented in the richest manner of the style. Opposite to the entrance a long gallery leads to the tomb of the founder, a circular building of very considerable elegance, the roof of which is a hemispherical vault internally, but a straight-sided Armenian conical roof on the outside. These dispositions make the plan of the building so similar to that of a Christian church, that most travellers have considered it as one—mistaken the court for the nave, and the tomb, with the gallery leading to it, for the apse and choir. There can, however, be no doubt but that it was originally built by a Mahometan, for the purpose of a hospital, or place of rest for pilgrims, during the sway of the Seljukian princes in the 12th and 13th centuries; and that its similarity to a Christian church in plan is accidental, though its details

very much resemble those of the churches of Ani and other places in Armenia. This, however, only shows that the inhabitants of the same country did not practise two styles, but only arranged the same forms in different manners to suit their various purposes.



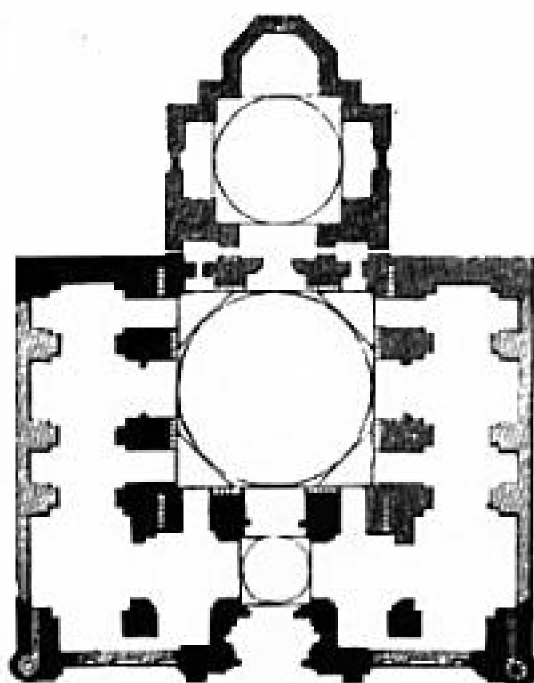
324. Imaret of Oulou Jami at Erzeroum. From Texier's Arménie et la Perse.

There is another mosque of about the same age as this at Ani, which would show even more clearly this close analogy; but it has never been drawn with sufficient correctness to admit of its being used for the purpose of demonstrating the fact which has been pointed out. But, indeed, throughout Armenia, mosques and Christian churches alternate with one another, borrowing details from one another, and making up one of the most curious mixed chapters in the history of the art; but one that remains yet to be written by some one who may visit the spot with sufficient knowledge and enthusiasm to accomplish it.

Mosque at Tabreez.

The next building that may be chosen for illustration is the ruined mosque at Tabreez, which, when perfect, must have been one of the

most beautiful in the country. Its history is not exactly known; but it certainly belongs to the Mogul dynasty, which on the death of Maugu Khan, the son of Ghengis Khan, was founded in Persia by Hulaku, the brother of the first named. He and his sons generally retained the faith of their forefathers till Ghazan Khan, who succeeded in A.D. 1294. He zealously embraced the Mahometan faith, and it was apparently to signalise the conversion that he began the mosque; but whether it was finished by him or his successors is not quite apparent. As will be seen by the plan, it is not large, being only about 150 ft. by 120, exclusive of the tomb in the rear, which as a Tartar it was impossible he should dispense with.



325. Mosque at Tabreez. Scale 100 ft. to 1 in.

In plan it differs also very considerably from those previously illustrated, being in fact a copy of a Byzantine church carried out with the details of the 13th century. This fact confirms the belief that the Persians before this age were not a mosque-building people. In this mosque the mode of decoration is what principally deserves attention, the whole building, both externally and internally, being covered with a perfect mosaic of glazed bricks of the most brilliant colours, and wrought into the most intricate patterns, and with all the elegance for which the Persians were in all ages remarkable.

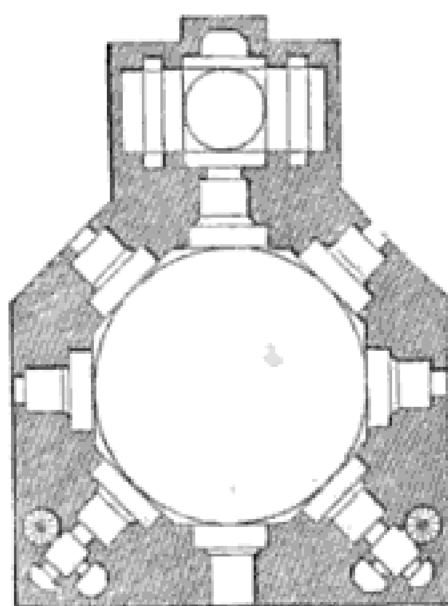


326. View of ruined Mosque at Tabreez. From Texier's Armenie et la Perse.

Europe possesses no specimen of any style of ornamentation with which this can be compared. The painted plaster of the Alhambra is infinitely inferior, and even the mosaic painted-glass of our cathedrals is a very partial and incomplete ornament compared with the brilliancy of a design pervading the whole building, and entirely carried out in this style. From the time, however, of the oldest Assyrian palaces, to the present day, colour has been in this country a more essential element of architectural magnificence than form; and here at least we may judge of what the halls of Nineveh and Persepolis once were, when adorned with colours in the same manner as this now ruined mosque of the Tartars.

Though of course it is impossible to represent it properly in a woodcut, the view[1] (woodcut No. 326) of its principal portal will give some idea of the form of the mosque, and introduce the reader to a new mode of giving expression to portals, which after the date of this building is nearly universal in the East. As will be seen, the entrance-door is small, but covered by a semi-dome of considerable magnitude, giving it all the grandeur of a portal as large as the main aisle of the building. The Gothic architects attempted something of this sort, by making the outer openings of their doors considerably larger than the inner; in other words, by *splaying* widely the jambs of their portals. By this means, in some of the French cathedrals, the appearance of a very large portal is obtained with only the requisite and convenient size of opening; but in this they were far surpassed by the architects of the East, whose lofty and deeply recessed portals, built on the same plan as the example here shown, are unrivalled for grandeur and appropriateness.

The mosque seems to have been deserted long before its destruction by an earthquake in the beginning of the present century, owing to its having belonged to the Turkish sect of the Sonni, while the Persians have during the last five centuries been devoted Shiites or followers of the sect of Ali and his martyred sons.



327. Tomb at Sultanieh. Scale 100 ft. to 1 in.

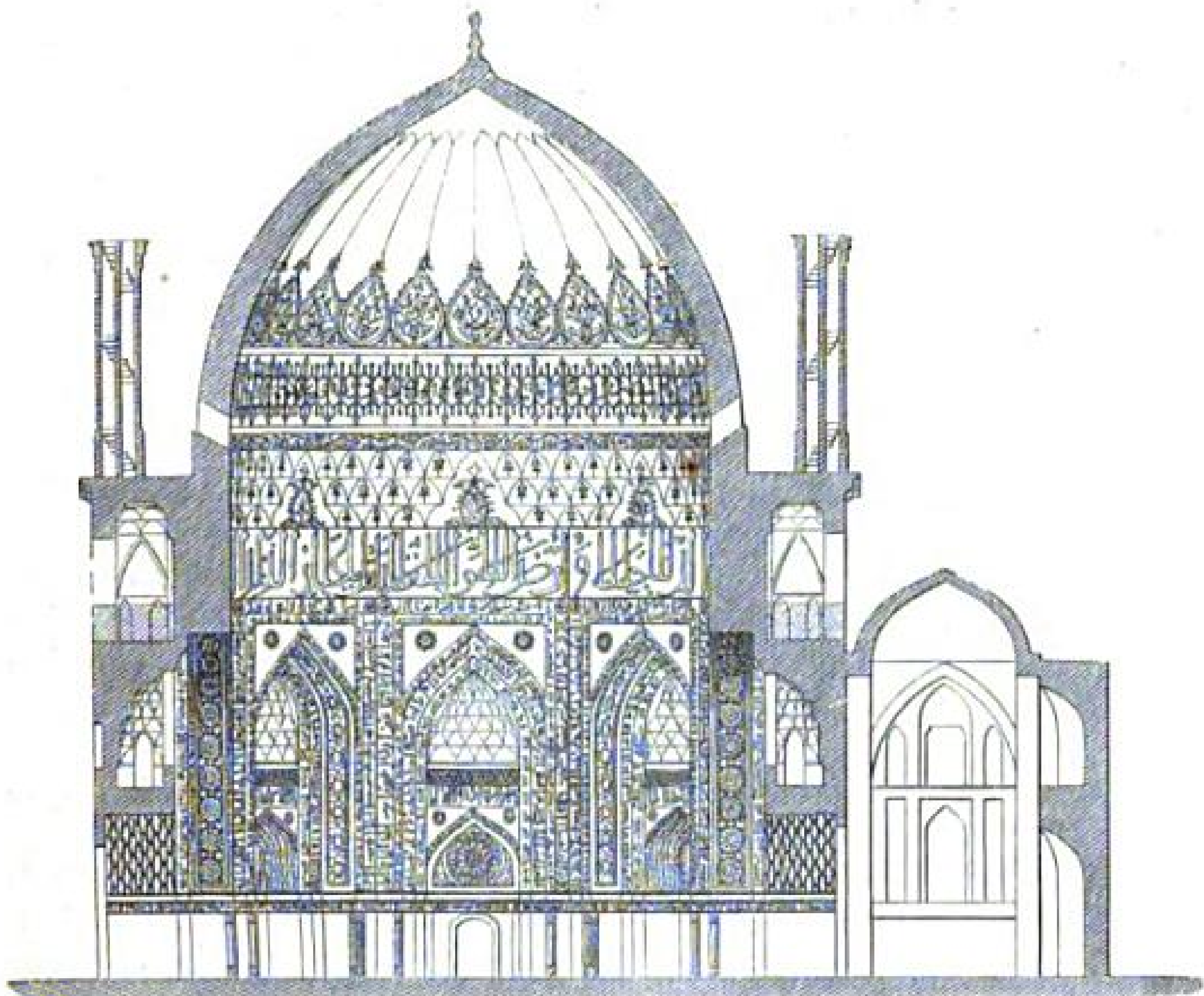
Tomb at Sultanieh. (A.D. 1303-1316.)

Mahomed Khodabendah, the successor of Ghazan Khan, the builder of the mosque at Tabreez last described, founded the city of Sultanieh, and, like a true Tartar, his first care was to build himself a tomb[2] which should

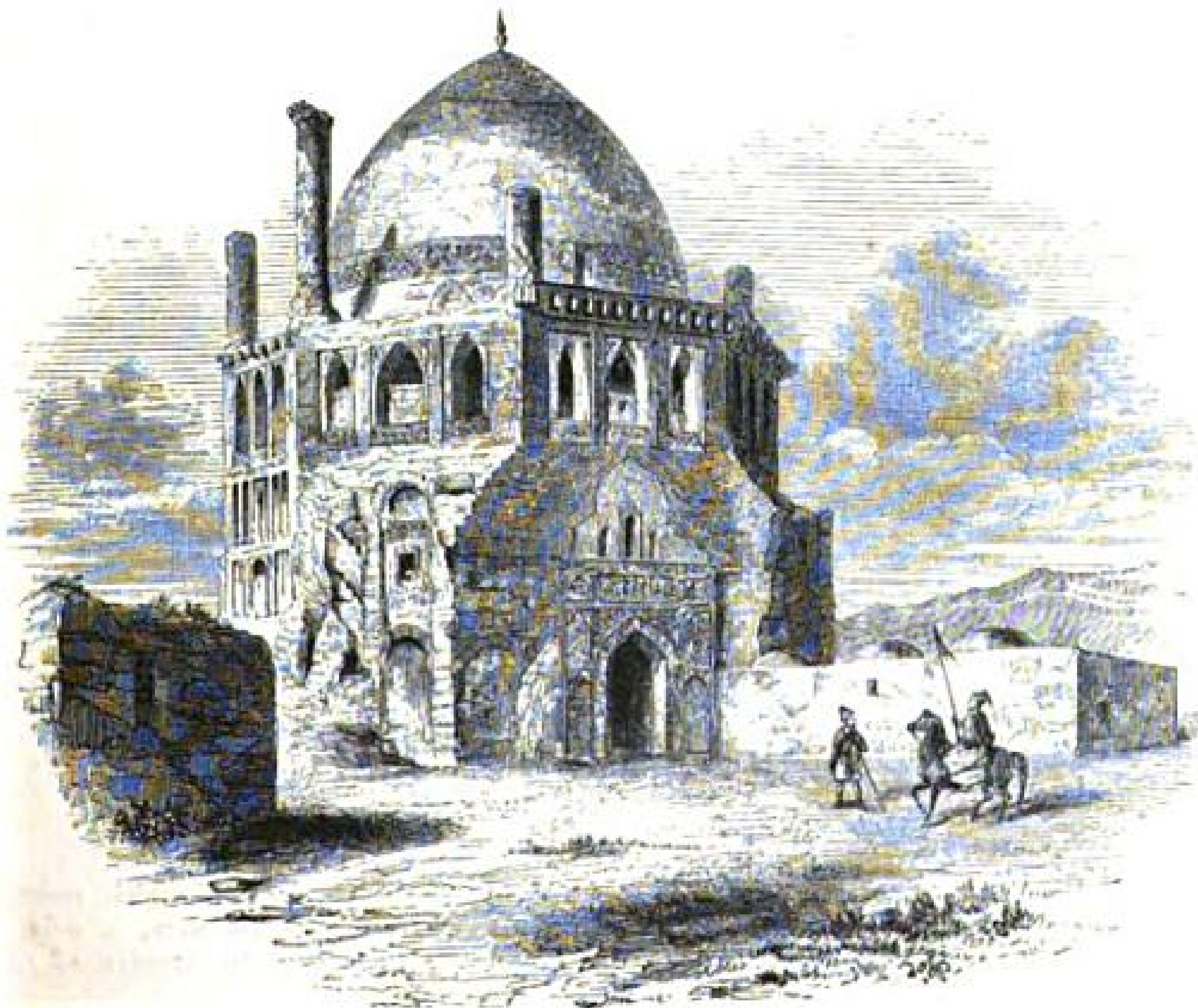
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[1] Both the plan and view are taken from Baron Texier's 'Arménie et la Perse,' which gives also several coloured plates of the mosaic decorations, from which their beauty of detail may be judged, though not the effect of the whole.

[2] Texier, from whose work the illustrations are taken, ascribes the building to another Khodabendah of the Sufi dynasty, A.D. 1577-85. A little knowledge, however, of the style should have shown him that the monument was 200 or 300 years older than that king; and besides, the Sufis, not being Tartars, would not build tombs anywhere, much less in Sultanieh, where they never resided.



328. Section of the Tomb of Sultan Khodabendah at Sultanieh. From Texier's Arménie et la Perse. Scale 50 ft. to 1 in.



329. View of the Tomb at Sultanieh.

become the principal ornament of his new city. Ker Porter[1] says that, being seized with as much zeal for his new Shiite faith as his predecessor had been for the Sonnite, his intention was to lodge in this mausoleum the remains of Ali and his son Hossein. This intention, however, was not carried into effect, and we know that his own bones repose alone in their splendid shrine.

In general plan the building is an octagon, to which is added a small chapel opposite the entrance, in which the body lies. The front has also been brought out to a square, not only to admit of two staircases in the angles, but also to serve as a backing to the porch which once adorned this side, but which has now entirely disappeared.

Internally the dome is 81 ft. in diameter by 150 ft. in height, the octagon being worked into a circle by as elegant a series of brackets as perhaps ever were employed for this purpose. The form of the dome too is singularly graceful and elegant, and was much preferable to the bulb-shaped double domes subsequently common in Persian architecture. The whole is covered with glazed tiles, rivalling in richness those of the mosque at Tabreez, and with its general beauty of outline this building affords one of the best specimens of this style to be found either in Persia or any other country.

These works were, however, far surpassed in magnificence, though not in beauty, by those of the dynasty of Sufis, who succeeded in 1499. The most powerful and brilliant sovereign of this race was Shah Abbas the Great (A.D. 1585-1629), whose great works rendered his capital of Ispahan one of the most splendid cities of the East. Among these works, by far the most magnificent was the great *Maidan*, or bazaar, with its accompanying mosque and subordinate buildings. The Maidan is an immense rectangular area, 2600 ft. by 700,[2] surrounded on all sides by an arcade two stories in height, consisting of 86 arches on the longer, and 30 on the shorter sides, richly ornamented, and broken in the centre of each face by a handsome edifice. The great mosque is at one end, opposite to which is the bazaar gate, and in the longer side the Looft Ullah mosque: facing this is the Ali Kassi gate, which, in its various stories and complicated suites of apartments, is in fact a palace rather than a gateway as we understand the term.

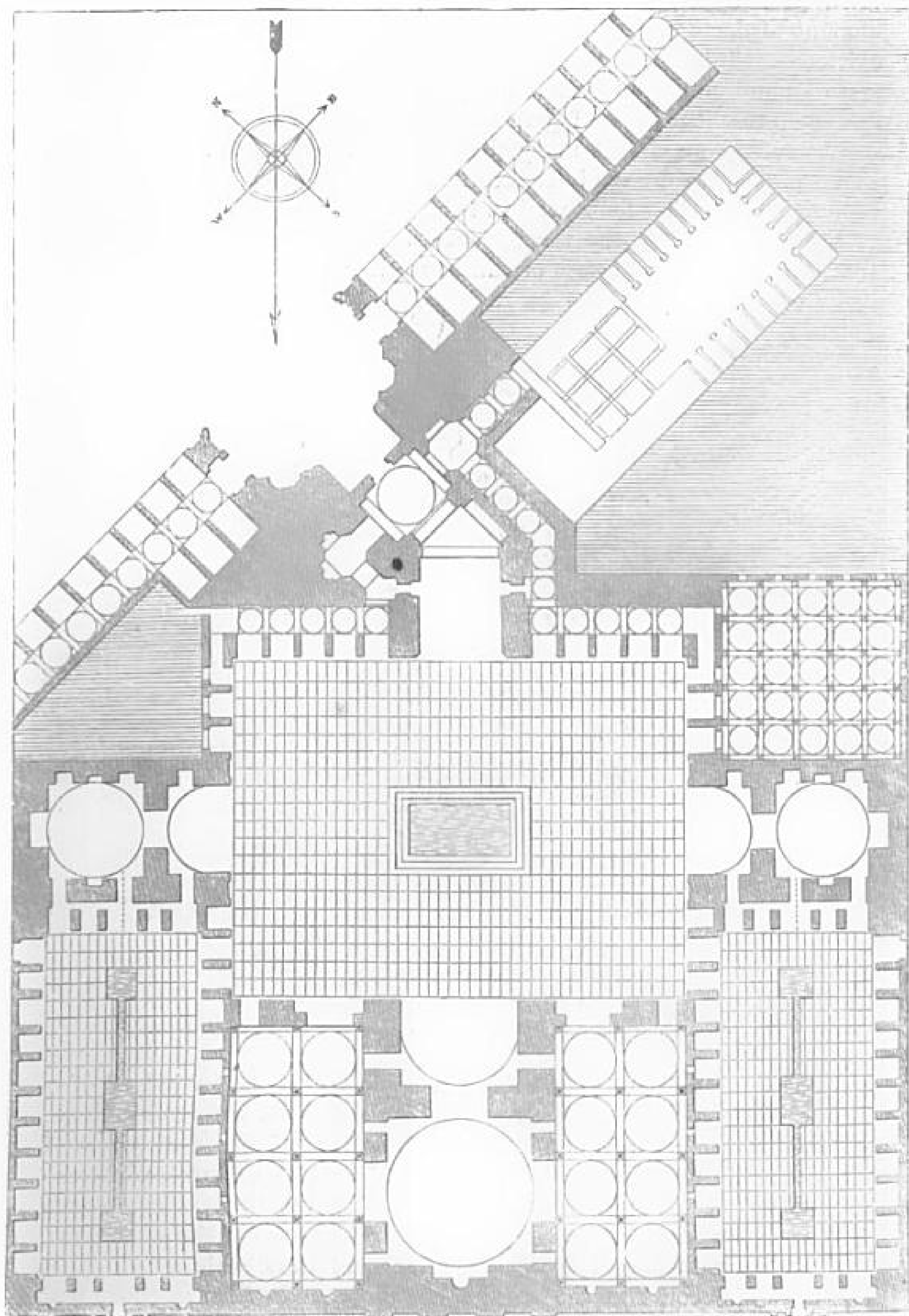
The dimensions of the great mosque or Mesjid Shah may be judged of from the plan opposite. As will be perceived, the Maidan not facing Mecca, an angle is made in the entrance, which however is far from being unfavourable to the general picturesque effect of the group. The mosque itself is a rectangular building, the internal dimensions of which are 223 ft. by 130, the centre compartment being surmounted by a dome 75 ft. in diameter and 110 ft. high internally; but being double, like most domes of this age, its external height is 165 ft.,

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[1] Travels, vol. i. p. 277.

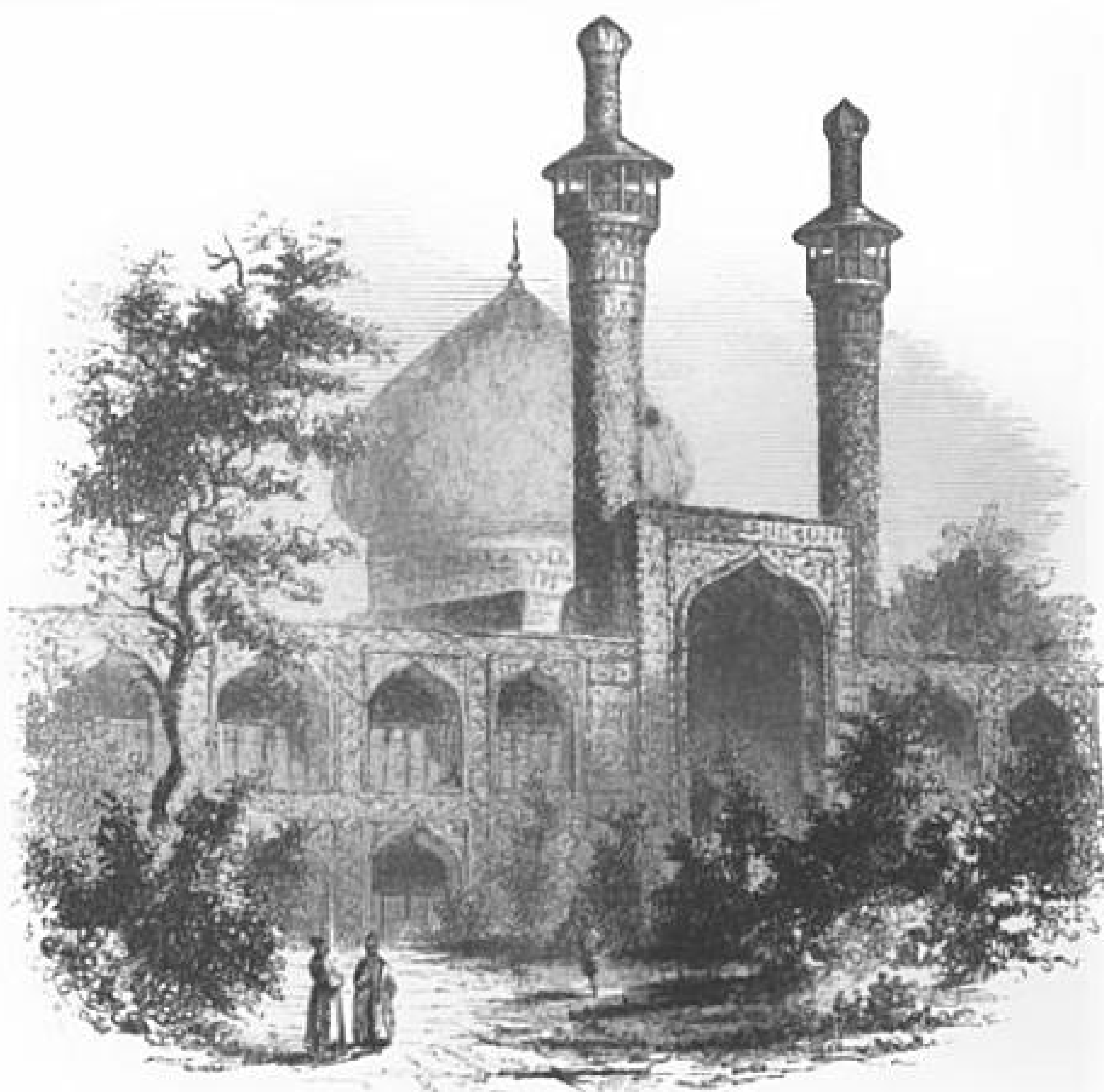
[2] Ker Porter's Travels, vol. i. p. 432 *et seq.* More than twice the area of the Crystal Palace in Hyde Park. The Piazza of St. Mark's at Venice, which resembles it more than any other area, is only 560 feet long, with a mean breadth of about 250 feet.

which is also the height of the minarets attached to the mosque. On three sides the mosque is surrounded by court-yards, richly ornamented, and containing fountains and basins of water for the prescribed ablutions of the faithful. The principal court measures 225 ft. by 170,



330. Great Mosque at Ispahan. From Texier's work. Scale 100 ft. to 1 in.

and, surrounded as it is on all sides by façades in the richest style of Persian polychromatic decoration, the brilliancy of its architectural effect is almost unrivalled by any other example of its class. Both in architectural forms and in the style of ornament this mosque is inferior to those at Tabreez and at Sultanieh; but for mass and amount of decoration it is perhaps the most magnificent specimen in existence. Taken altogether, the Maidan Shah, and its accompanying mosques and gates—the whole being the work of one king and on one design—present a scene of gorgeous, though it may be somewhat barbarous splendour almost unequalled in the whole world. Even now, in its premature decay, it strikes almost every traveller, though the style is not one that looks well in ruin, owing to the perishable nature of the materials and the tawdry effect of glazed tiles, when it is seen that they are a mere surface ornament to the walls.



331. Madrissa of Sultan Husein at Ispahan. From Flandin and Coste's Voyage en Perse.

The forms and peculiarities of this style will be better judged of—in a woodcut at least—by the representation of the *Madrissa*, or college, of Husein Shah (woodcut No. 331), the last of the Sufi kings of Persia; and though erected at the end of the 17th century, while the great mosque was built in the beginning of it, but little change seems to have taken place in the interval: the minarets are of the same form, the double bulb-shaped dome is similar, and the double arcades that surround the court of the mosque are the same in form as those that encircle the Maidan Shah.

From the time of the Afghan invasion, which took place during the reign of the Sultan Husein in the beginning of the last century, Persia does not seem to have recovered herself sufficiently to undertake any great works; some palaces, it is true, have been built, and mosques of inferior dimensions, but nothing really remarkable of late years. The influence of the corrupt styles of Europe has become too apparent to enable us to hope that she will ever again be able to recover her place in the domain of art.

When we have completed the survey of the Saracenic style by describing it as found in India and Spain, we shall be better able to judge of the merit of the Persian form of it. In the mean while it is sufficient to observe that its chief historic interest rests on the fact of its being a modern reproduction of the style of the ancient palaces of Nineveh and Babylon, using the same thick walls of imperfectly burned bricks, and covering them with the same brilliant coloured decorations of glazed and painted tiles and bricks, carrying this species of decoration to an extent never attempted in any other part of the world. This too constitutes its principal claim to interest in an artistic point of view, showing how far polychromatic decoration may be used, not only internally but externally, without any offence to good taste, but, on the contrary, with the most complete success in producing that beauty and splendour which is the aim of all architectural utterance.

PALACES.

The Persian princes showed almost as much taste and splendour in their palaces as in their mosques; but these were not from their nature so capable of architectural display as the others. An Eastern palace neither requires that mass of apartments and offices which are indispensable in Europe, nor does the climate admit of their being massed together so as to form a single group, imposing from its size. On the contrary, the Persian palaces generally consist of a number of pavilions and detached halls, and smaller groups of apartments scattered over a large space interspersed with trees and gardens, and only connected by covered arcades or long lines of canals, the centre of which is adorned by fountains of the most elegant forms.

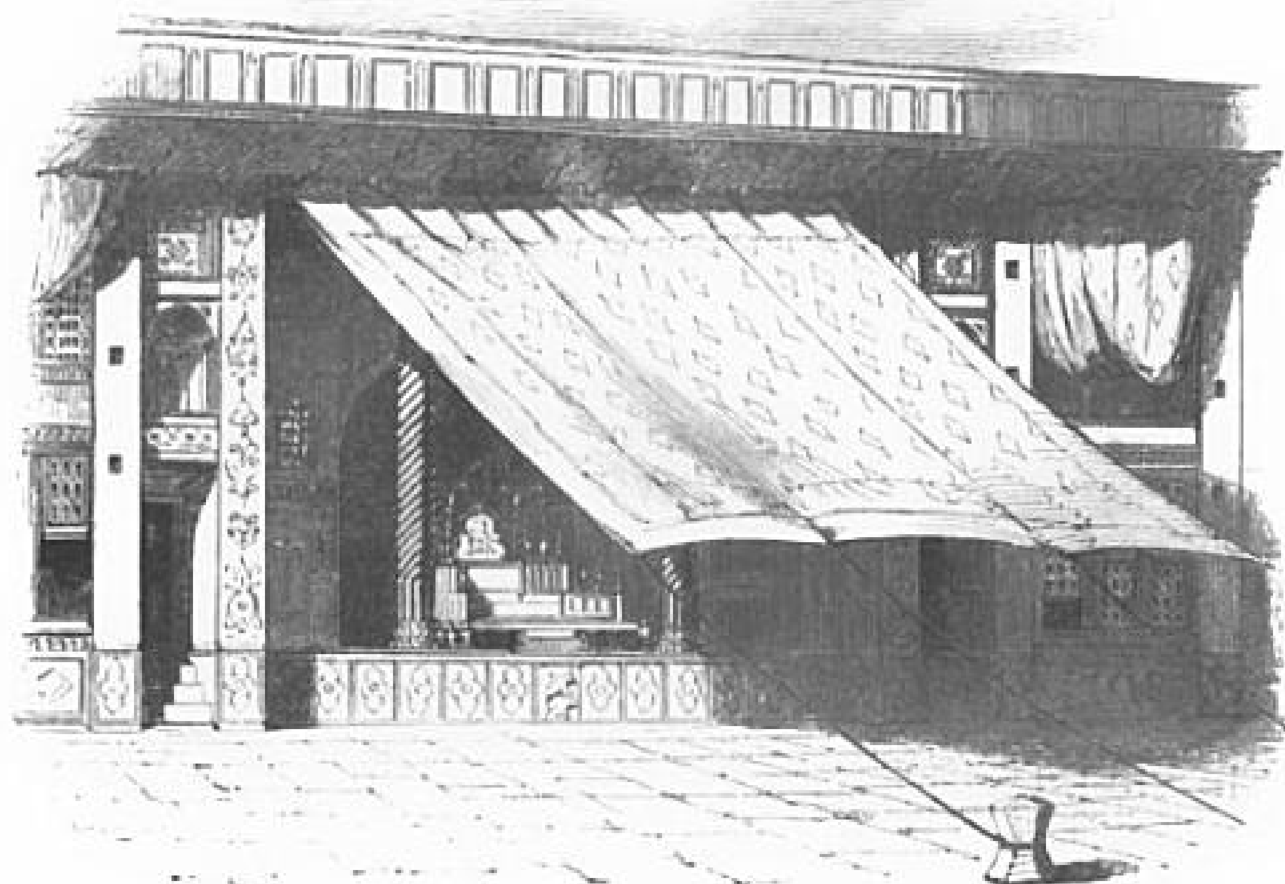
Individually these detached buildings are often of great beauty and most elaborately ornamented, and the whole effect is pleasing and tasteful; but for true architectural effect they are too scattered, and the whole is generally very deficient in grandeur.

The throne-room at Teheran (woodcut No. 332) is a fair specimen of these buildings, though in fact it is only a porch or deep recess opening on a garden, the front being supported or ornamented by two twisted columns. In front of these a massive curtain is drawn out when the room is used, and both for colour and richness of effect the curtain is virtually the principal feature in the composition.

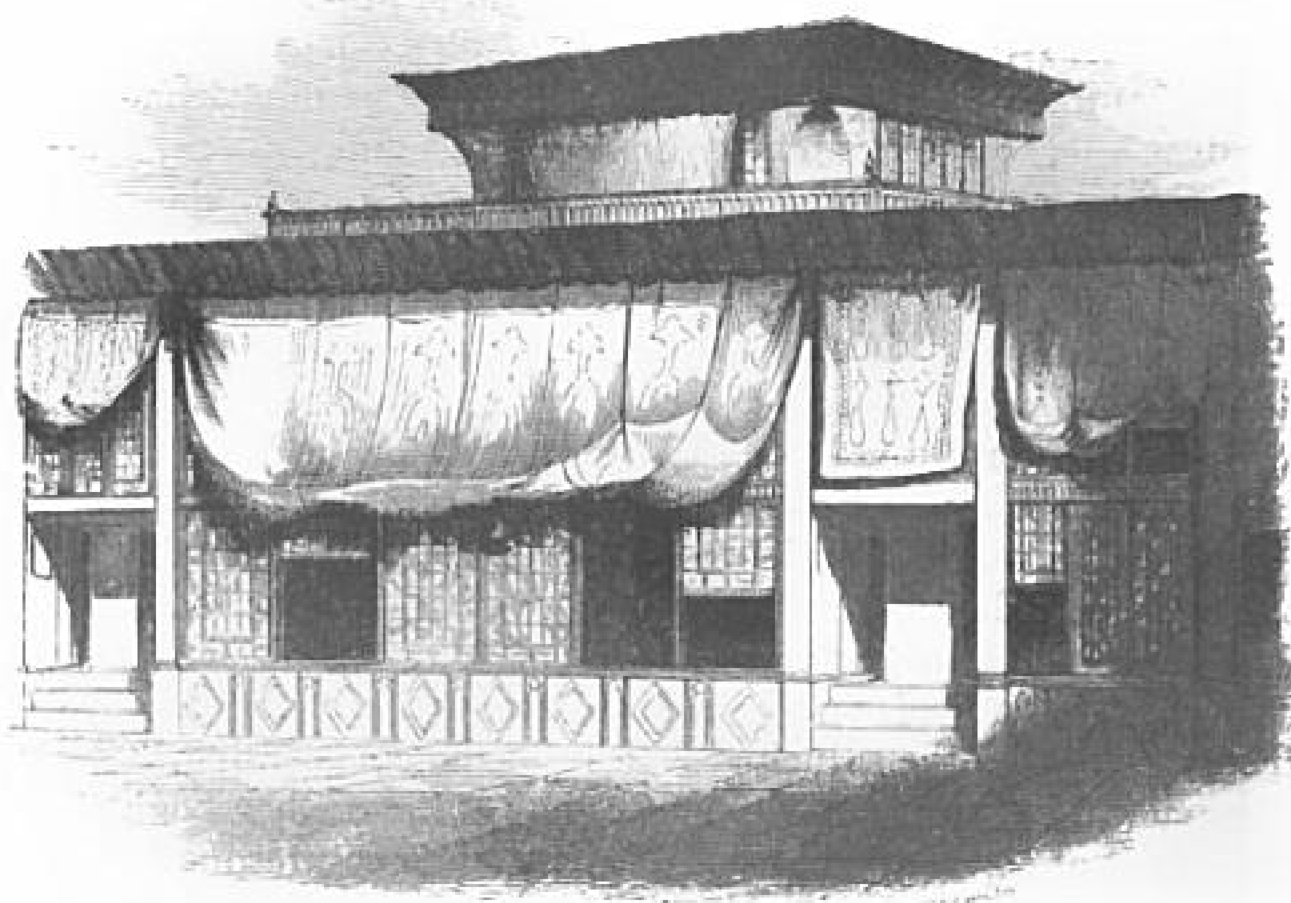
The next example is taken from the palace of Char Bagh, or the four gardens at Ispahan, and shows the general picturesque form these buildings assume. It is by no means so favourable a specimen as the

last, though this may arise more from the nature of the building than from any want of taste on the part of its architect. Many of the pavilions in the same palace are of great lightness and elegance, though, most of them being supported by wooden pillars, and being of very ephemeral construction, they hardly belong to the higher class of architectural art.

The Caravanserais are another class of buildings, not peculiar, it



332. Throne-room at Teheran. From Nineveh and Persepolis Restored.



333. Palace at Ispahan. From Nineveh and Persepolis Restored.

is true, to Persia, but which, from the character of the traffic in merchandise, and the general insecurity of the roads along which it is conducted, have received a great development in that country. Internally, their usual form is that of a square court-yard, surrounded by a range of arcades generally two stories in height, each arch opening into a small square cell at the back. Externally they present only a high plain wall, surmounted by battlements and flanked by towers at each angle, and sometimes also by additional towers in the longer faces. The principal architectural ornament is lavished on the gateways, which are almost always higher than the contiguous walls, and often display great beauty of design combined with considerable elaboration of detail.

It is not, however, only in these larger monuments that the Persians show an appreciation of the beautiful and a power of expressing it. As in most Eastern nations, the feeling seems innate, and all the minor objects show it as well as the more important ones. They are now too deeply depressed to attempt much; but it only seems to require a gleam of returning sunshine to enable them again to rival in art the ancient glories of Nineveh and Persepolis, provided they can avoid the snare of copying, which has been fatal to the art of most modern nations.

CHAPTER IV.

INDIA.

CONTENTS.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
Sabuktagin the Ghaznavide. First Mahometan invasion of India	A.D. 975*	Yusuf Khan establishes dynasty at Beejapore	A.D. 1501
Mahmoud, conqueror of India	997	Humayun, builder of tomb at Old Delhi .	1531
Shahab ud deen establishes Ghori dynasty	1183	Akbar, builder of mosque and palace at Futtehpore Sicri—tomb at Secundra .	1556
Kootub ud deen establishes Pathan dynasty, builder of mosque at Delhi	1206	Muhammed, builder of great dome at Beejapore	1626
Sekander Shah, builder of mosque at Gour	1358	Shah Jehan, builder of palaces at Delhi and Agra. Taje Mehal at Agra . .	1628
Khoja Jehan, builder of mosque at Jaunpore	1397	Aurungzebe	1658
Baber establishes Mogul dynasty . . .	1494		

* If not otherwise stated, the date given is that of the beginning of the reign.

During the permanence of the Roman empire a great belt of stationary civilized nations extended nearly due eastward from the shores of the Mediterranean to the Bay of Bengal. Uninfluenced by their arts or civilization, two great wandering hordes hung upon the northern and southern frontiers. The Arabs, as the nearest and most impetuous, first burst their bonds, and spread over Syria, Egypt, and Persia. The three following centuries sufficed not only to expend their energy, but to steep them in the luxury and enervation of those nations whom they had subdued, more in consequence of the vices of the conquered races than from their own prowess. The Arabs in their turn made way for the irruption of the great Turkish or Tartar tribes, who, from being simple shepherds pasturing their flocks on the grassy plains of Upper Asia, became a race of conquerors extending their victorious arms over the fairest part of the inhabited globe. After three centuries of continued progress, Turkish governors ruled over all the Mahometan kingdoms of the East, extending from the Nile and the Adriatic to the mouth of the Ganges.

Thus we find in the earlier Mahometan architecture of Egypt a purely Arabic elaboration of the Byzantine style; but with a gradual introduction of a Tartar element under the Memlook Sultans. In Persia the same was probably the case; but in India the Arabic phase is

entirely lost; and when we first meet with examples of Mahometan architecture in this country, it is a Tartar form of the older Sassanian art.

Those Moslems who conquered India were from first to last of Tartar origin—Toorks, Pathans, and Moguls. No Arab, and indeed no purely Persian race, ever crossed the boundary during that period, and the consequence is, that we find there a combination of Tartar and Hindu architecture, differing in many essential points from all other forms of Saracenic art, though resembling the Persian more than any other.

The principal local difference arises from its being founded on the Hindu, or rather on the Jaina style; but the great essential characteristic is the universal prevalence of tombs, and of the forms arising from this peculiarity.

In Egypt and in Persia the tombs appear timidly, and as if attached to the mosques. In India it more generally happens that the mosques are attached to the tombs; the latter being by far the noblest and most important buildings now found in India, and those which give form and character to the style.

GHAZNI.

Towards the latter part of the 9th century the power of the Caliphs of Bagdad was sinking into that state of rapid decline which is the fate of all Eastern powers. During the reign of Al Motamed, 870–891, Egypt became independent, and the northern province of Bokhara threw off the yoke under Nasr ben Ahmed, the governor appointed by the Caliph, the descendant of Saman, a robber chief, who declared and maintained his independence, and so formed the Samanian dynasty. After about a century of existence, Sabuktagin, a Turkish slave belonging to a general of one of the last of the Samanian kings, rendered himself also independent of his master, and established himself in Ghazni, of which he was governor, founding the well-known dynasty of Ghaznavides. His successor Mahmoud, A.D. 977–1030, is one of the best-known kings in Indian history, owing to his brilliant campaigns in India, and more especially that one in which he destroyed the celebrated temple of Somnath.

On his return from an earlier campaign, in which he sacked the town of Muttra, we learn from Ferishtah that the king ordered a magnificent mosque to be built of marble and granite, afterwards known by the name of the Celestial Bride. He founded a university near to it. When the nobility of Ghazni perceived the taste of their king in architecture, they also endeavoured to vie with one another in the magnificence of their palaces, as well as in the public buildings which were raised for the embellishment of the city. "Thus," continues the historian, "the capital was in a short time ornamented with mosques, porches, fountains, aqueducts, reservoirs, and cisterns, beyond any city in the East."

The plain of Ghazni still shows the remains of all this splendour; and in the dearth of information regarding Persian art of that age, a

knowledge of this would be one of the most interesting and valuable contributions we could receive. These ruins, however, have not been as yet either examined or described;[1] and even the tomb of the Great Mahmoud is unknown to us, except by name,[2] notwithstanding the celebrity it acquired from the removal of its gates to India at the termination of our disastrous campaigns in that country.

These are of Deodar pine,[3] and the carved ornaments on them are so similar to those on the mosque of Ebn Touloun at Cairo, as not only to prove their being of the same age, but also to show how similar the modes of decoration were at these two extremities of the Moslem empire at that time.

Two minars still adorn the plain outside the city, and form, if not the most striking, at least the most prominent of the ruins of that city. Neither of them were ever attached to any mosques; they are indeed pillars of victory, or *Jaya Sthambas*,[4] like those in India, and are such as we might expect to find in a country so long Buddhist. One of them was erected by Mahmoud himself; the other was built, or at least finished, by Masoud, one of his immediate successors.[5]

The lower part of these towers is of a star-like form—the plan being apparently that of two squares placed diagonally the one over the other. The upper part, rising to the height of about 140 ft. from the ground, is circular; both are of brickwork, covered with ornaments of terra-cotta of extreme elaboration and beauty, and retaining its sharpness to the present day.

Several other minars of the same class are found farther west, even as far as the roots of the Caucasus,[6] which, like these, were pillars of victory, erected by the conquerors on their battle-fields. None of these have the same architectural merit as those of Ghazni, at least in their present state, though it may be that their ornaments, having been in stucco or some perishable material, have disappeared, leaving us now only the skeleton of what they were.

The weakness of Mahmoud's successors left the Indians in repose for more than a century and a half; and, like all Eastern dynasties, the Ghaznavides were gradually sinking to inevitable decay, but their fall was precipitated by the crimes of one of them, which were fearfully avenged by the destruction of their empire and capital by Ala ud deen, and the final supercession of their race by that of Ghori, in the person of Shahab ud deen, in the year 1183.

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[1] It is very much to be regretted that not one single officer accompanied our armies, when they passed and repassed over Ghazni, with sufficient taste and knowledge to appreciate the interest of these ruins; and it is to be hoped, if an opportunity should again occur, that their importance to the history of art in the East will not be overlooked.

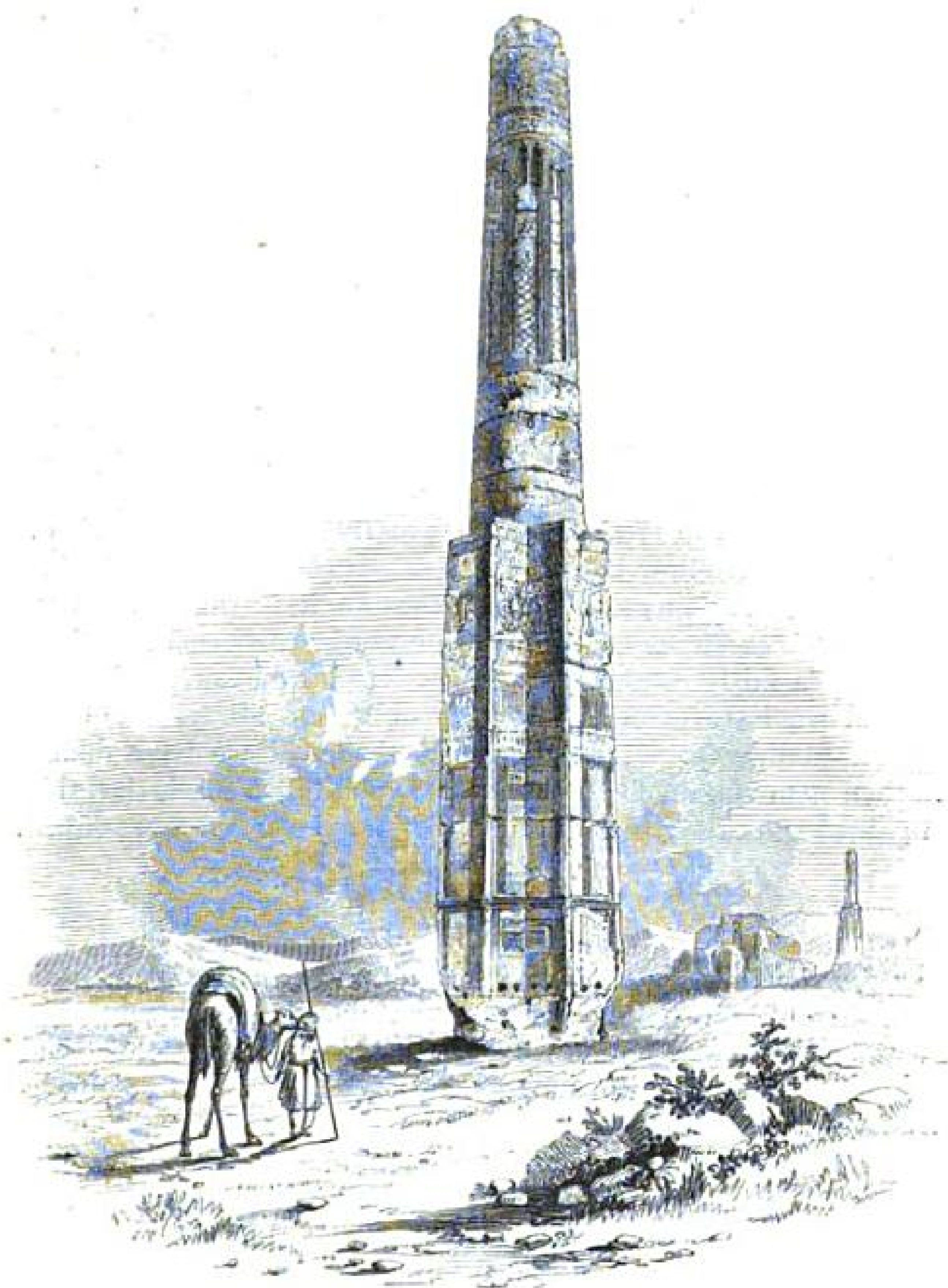
[2] The sketch of the tomb published by M. Vigne in his Travels in Afghanistan gives too confined a portion of it to enable us to judge either of its form or detail. The gate in front is probably modern, and the foiled arches in the background appear to be the only part that belongs to the 11th century.

[3] The tradition that these gates were of sandal-wood, and brought from Somnath, is entirely disproved by the fact of their being of the local pine-wood, as well as by the style of decoration, which has no resemblance to Hindu work.

[4] See pp. 6, 81, &c.

[5] See translation of the inscription on these minars, J.A.S.B., No. 134, for 1843.

[6] Two are represented by Dubois de Montpéreux, Voyage autour du Caucase.



334. Minar at Ghazni. From a drawing by G. T. Vigne, Esq.

With all the vigour of a new race, the Ghorians set about the conquest of India. After sustaining a defeat in the year 1191, Shahab ud deen again entered India in 1193, when he attacked and defeated Pirthay, Raja of Delhi. This success was followed by the conquest of Canouge in 1194; and after the fall of these two, the greatest capitals and empires in the peninsula, India may be said to have been conquered before his death, which happened in 1206.

At his death his great empire fell to pieces, and India fell to the share of Kootub ud deen Ibek. This prince was originally a Turkish slave; afterwards he became one of Shahab ud deen's generals, and contributed greatly by his talents and military skill to the success of his master. He and his successor, Altumsh, continued nobly the work

so successfully begun, and before the death of the latter, in 1235, the empire of northern India had permanently passed from the hands of the Hindus to those of their Mahometan conquerors.

For three centuries the empire continued under a succession of Turkish, or as they are usually called, of Pathan dynasties. These monarchs exhibited a continued vigour and energy very unusual in the East, and they not only sustained but increased and consolidated this newly acquired accession to the dominions of the faithful, when, in 1494, Baber, the 4th in descent from Tamerlane, invaded Hindostan, and finally established the celebrated dynasty of the Moguls, which during six succeeding reigns, extending over the extraordinary period of more than two centuries, reached a degree of splendour and of solid power almost unknown in the East. On the death of Aurungzebe, in 1707, the empire fell to pieces, and was a prey to anarchy till after the battle of Plassy in 1757, when it virtually fell into the hands of the English. We have now held it for nearly a century, but whether for good or for evil remains to be seen. Certain it is that our influence has been fatal as far as architecture or art is concerned. Wherever our power is fairly established, the natives have ceased to build with taste, and we have even laboured to obliterate all traces of former architectural beauty. It may be that the good we have done may more than compensate for this; but it is painful to think that this has been gained at the sacrifice of much that was beautiful and refined.

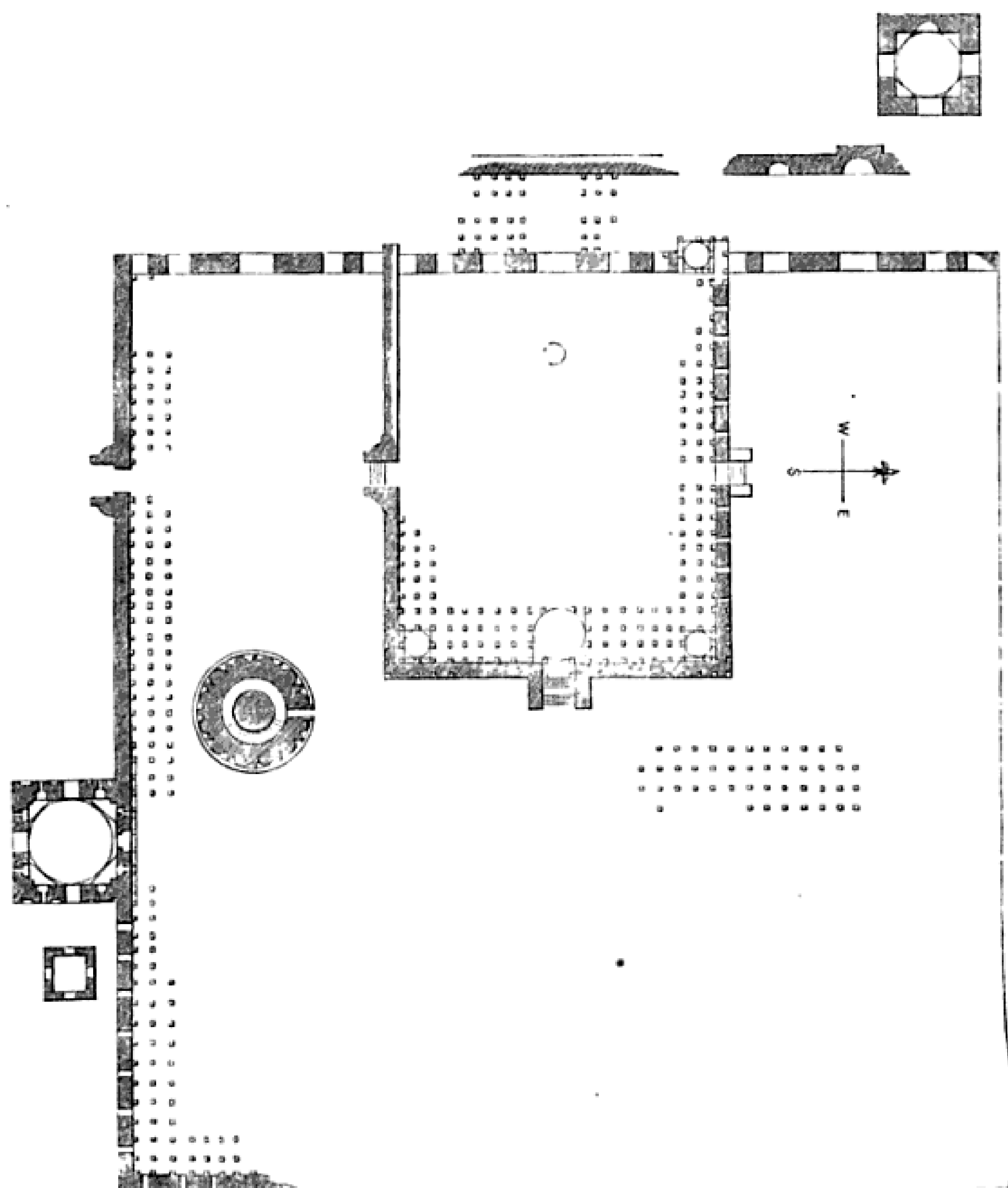
Kootub.

By far the most interesting group of ruins that exist in India, or perhaps in any part of the world, is that which is grouped round the tall column of Victory which Kootub erected at Delhi within the precincts of the palace of the unfortunate Pirthay Raja, to celebrate his conquest of the Hindus.

Even in situation these ruins are singularly beautiful, for they stand on the gentle slope of a hill overlooking a plain that once had been apparently a lake, and afterwards became the site of three successive capitals of the East. In front are the ruins of Togluckabad, the gigantic fort of an old Pathan chief; and farther north the plain is still covered with the ruins of Old Delhi, the capital of the later Pathans and earlier Moguls. Beyond that, at the distance of 9 or 10 miles, are seen the towers of Shahjehanabad, the modern capital, and still the seat of the nominal monarchy of the Great Mogul. Still farther north are situated the civil station and cantonments of the British rulers of the country. It is a fortunate circumstance that these were not placed here, as at Agra, in the midst of the ruins, for it is to this that we owe their preservation. But for the distance it is probable that marble columns would have been taken for all purposes for which they might have been available, with a total disregard for the beauty and interest of the remains thereby annihilated. Even as it is, the buildings belonging to the celebrated Shahlimar gardens, which were the only buildings of importance in the neighbourhood of the English

station, have disappeared; but this is of slight importance as compared with the ruins to the south.[1]

The general arrangement of the principal ruins will be understood from woodcut No. 335, which was taken with great care, though the



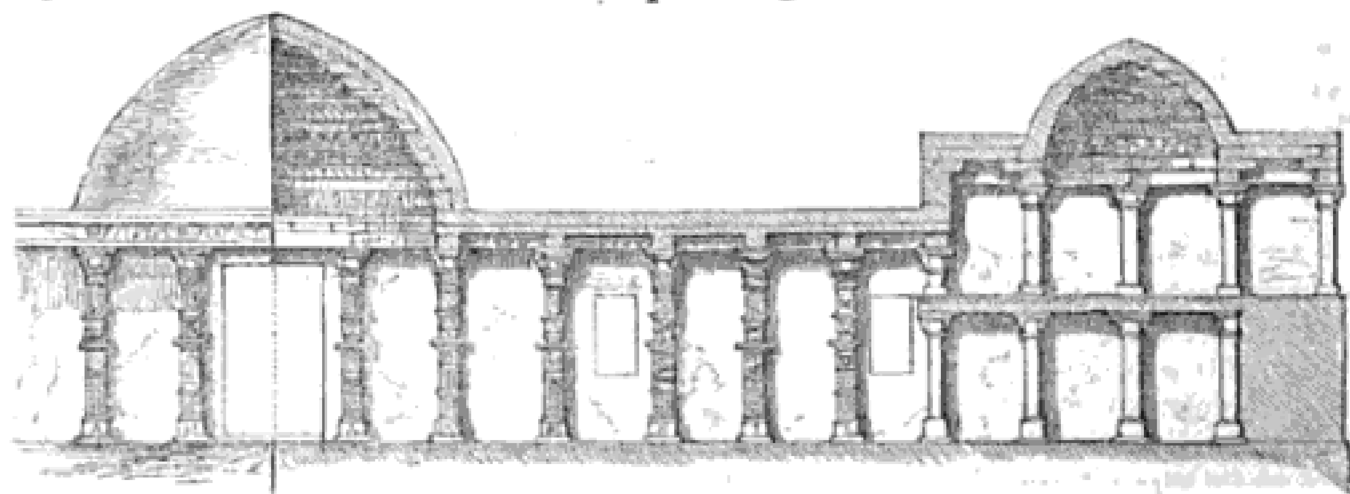
335. Plan of Ruins in Old Delhi. From a plan by the Author. Scale 100 ft. to 1 in.

[1] At one time a better influence seems to have prevailed, and some money was spent in repairing the Kootub Minar. It is true this was done in the worst possible taste. A door was added in the true style of Strawberry Hill Gothic; and a kiosk was stuck on its summit copied from the garden pavilion of some modern dwelling in Delhi, and balustrades added to the balconies in the same taste. A dome, too, surmounted the whole; but as this was of lath and plaster, or some such material, it has disappeared long ago, and it would be well if the other improvements had so also; but the masonry was repaired and consolidated, and we must therefore be thankful that so much was done, and not grumble at the mode.

scale to which it has been necessary to reduce it prevents all its peculiarities from being seen. To understand it, it is necessary to bear in mind that all the pillars are of Hindu, and all the walls of Mahometan architecture.

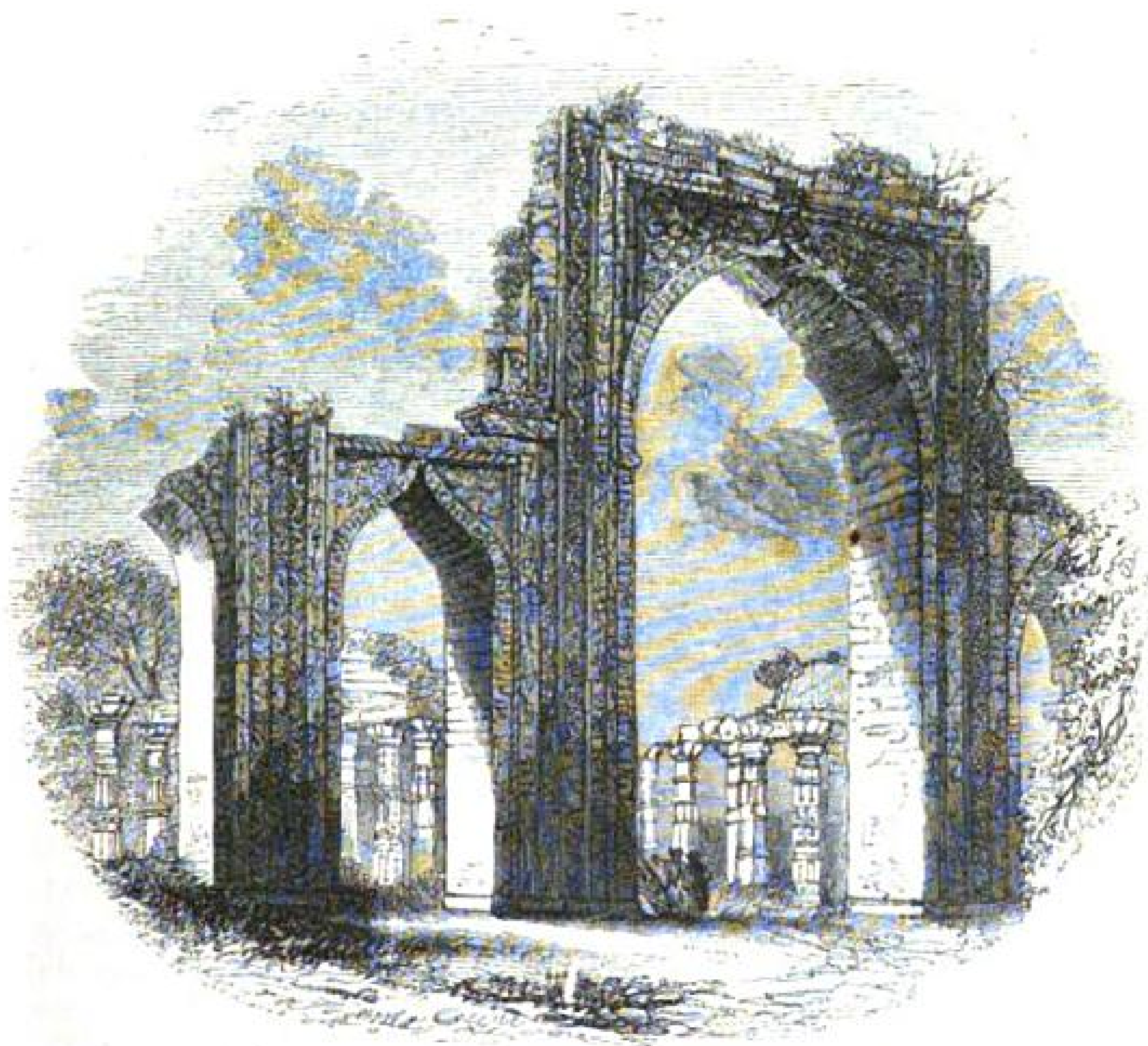
It is by no means easy to determine whether the pillars now stand as originally arranged by the Hindus, or whether they have been taken down and re-arranged by the conquerors. In this instance it seems most probable that the former was the case, and that they were open colonnades surrounding the palace of Pirthay Raja. But supposing this to be so with regard to the pillars, it is quite evident that all the enclosing walls were erected by the Moslems, all the string-courses being covered with ornaments in their style, and all the openings possessing pointed arches, which the Hindus never used. If this is so, it is the only instance known of Hindu pillars being left undisturbed. The celebrated contemporary mosque at Canouge is undoubtedly a Jaina temple, rearranged on a plan precisely similar to that of the mosque of Amrou at Old Cairo (woodcut No. 313); but as the roof and domes are all of Jaina architecture, no trace of the Moorish style is to be seen internally: the exterior is as purely of Mahometan architecture. There is another mosque at Dhar, near Mandoo, of much more modern date, which is without doubt a Jaina temple re-arranged, as explained p. 80. Another in the fort at Jaunpore, as well as fragments of other mosques elsewhere, all show the same system of taking down and re-arranging the materials on a different plan. If therefore the pillars at Kootub are *in situ*, it is the only instance known of such being the case. It may perhaps be necessary to explain that there could be no difficulty in taking down and rebuilding any of these erections, for the joints of the pillars are all fitted with the precision that Hindu patience alone could give; and each compartment of the roof is composed of 9 stones—4 architraves, 4 angular and 1 central slab, as explained in diagram No. 47, p. 74, and all so exactly fitted, and so little dependent on cement, as easily to be taken down and put up again. The same is true of the domes, all which, being honestly and fairly fitted, would suffer no damage from the process of removal.

The section (woodcut No. 336) of one half of the principal colonnade (the one facing the great series of arches) will explain its form better than words can do. It is so purely Jaina, that it should perhaps have been introduced in speaking of that style; but as making



336. Section of part of East Colonnade at the Kootub, Old Delhi. Scale 25 ft. to 1 in.

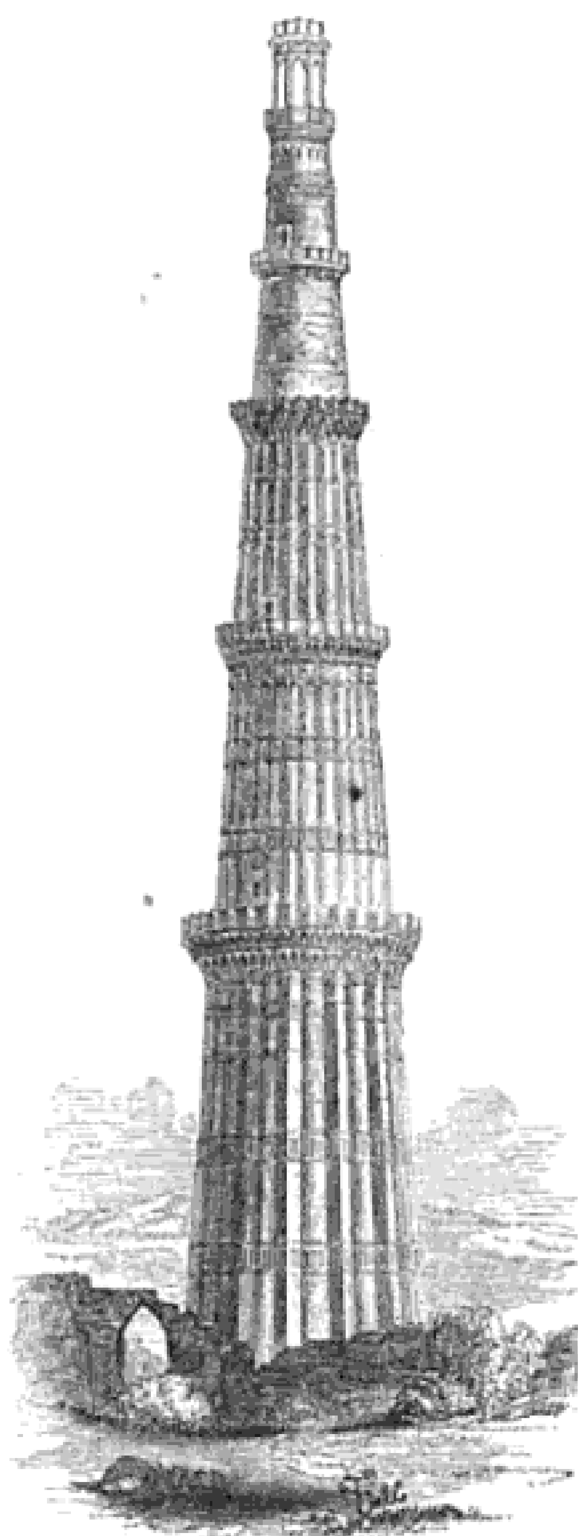
a part of the earliest mosque in India, I have preferred introducing it in this place. The pillars used here are of the same order, and similar to those used on Mount Abu (shown in woodcut No. 44), except that those at Old Delhi are much richer and more elaborate. They belong probably to the 9th or 10th century, and are among the few examples to be found in India that seem to be overloaded with ornament—there not being one inch of plain surface from the capital to the base. Still the ornament is so sharp and so beautifully executed, and the effect, in their present state of decay and ruin, so picturesque, that it is very difficult to find fault with what is so beautiful. In some instances the figures that were on the shafts of the pillars have been cut off, as offensive to Mahometan strictness with regard to idolatrous images; but on the roof and less seen parts, the crossed-legged figures of the Jaina saints, and other emblems of that religion, may still be detected.



337. Central Range of Arches at the Kootub, from a sketch by the Author.

The glory of the mosque, however, is not in these Hindu remains, but in the great range of arches on the eastern side, extending north and south for about 385 ft., and consisting of 3 greater and 8 smaller arches; the central one being 22 ft. wide and 53 high; the larger side arches 24 ft. 4 in., and about the same height as the central arch; the smaller arches are about half these dimensions, and unfortunately

are generally very much ruined. Behind this, at the distance of 32 ft., are the foundations of another wall; but whether intended to be carried as high as that in front is by no means apparent. It seems probable that the Hindu pillars between the two screens were the only part that was proposed to be covered, some of them being built into the back part of the great arches, and all above them is quite plain and smooth, without the least indication of any intention to construct a vault or roof of any sort. Besides this, a roof is by no means an essential part of a mosque; a wall facing Mecca is all that is required, and frequently in India is all that is built, though sometimes an enclosure is added in front of it to protect the worshippers from interruption. Roofed colonnades are of course not only convenient but ornamental accompaniments, yet far from being indispensable.



338. Minar of Kootub. From a sketch by the Author.

The history of this mosque, as told in its construction, is as curious as anything about it. It seems the Afghan conquerors had a tolerably distinct idea that pointed arches were the true form of architectural openings; but being without science sufficient to construct them, they left the Hindu architects and builders whom they employed to follow their own devices as to the mode by which this form was to be attained. The Hindus, however, up to this time had never built arches, nor indeed did they for centuries afterwards. Accordingly they proceeded to make the pointed openings on the same principle upon which they built their domes. They carried them up in horizontal courses as far as they could, and then closed them by long slabs meeting at the top, the construction being in fact that of the arch of the aqueduct at Tusculum, shown in woodcut No. 239. The same architects were employed by their masters to ornament the faces of these arches, and did so by copying and repeating the ornaments on the pillars and friezes on the opposite sides of the court, covering the whole with a lace-work of intricate and delicate carving, such as no mosque ever received before or since; and though it is perhaps in a great measure thrown away and lost when used on such a scale, it is without a single exception the most exquisite specimen of its class known to exist anywhere. The stone being particularly hard and good, it retains its freshness to the present day, and

is only destroyed above the arches where the faulty Hindu construction has superinduced premature decay.

The minar is 48 ft. 4 in. in diameter at the base, and, when measured in 1794, was 242 ft. in height.[1] Even then, however, the capital was ruined, so that some 10 or perhaps 20 ft. must be added to this to complete its original elevation. It is ornamented by four boldly projecting balconies; one at 90, the second at 140, the third at 180, and the fourth at 203 ft. from the ground; between which are richly sculptured raised belts containing inscriptions. In the lower story the projecting flutes are alternately angular and circular, in the second circular, and in the third angular only; above this the minar is plain, but principally of white marble with belts of the red sandstone of which the three lower stories are composed.

The only building known to be taller than this that the Mahometans ever erected is the minaret of the mosque of Hassan, at Cairo (p. 394 and woodcut No. 320); but as this pillar at Old Delhi is a wholly independent building, it has a far nobler appearance, and both in design and finish far surpasses its Egyptian rival, as indeed it does any building of its class, so far as I know, in the whole world.

At the distance of 470 ft. north of this one a second minar was commenced, of twice its dimensions, or 297 ft. in circumference. It was only carried up to the height of 40 ft., and abandoned probably in consequence of the removal of the seat of government to Togluckabad or elsewhere.

The date of all these buildings is known with sufficient exactness from the inscriptions that cover them,[2] from which it appears that the inner court was enclosed by Shahab ud deen. The central range of arches (woodcut No. 337) was built by Kootub ud deen; the wings by Altumsh, whose tomb is behind the northern range; and the minar either built, or at least finished, by the same monarch: they extend therefore from A.D. 1196–1235, but were left incomplete at the death of the last-named king.

Having described at such length the ruins of the first buildings the Moslems erected in the old imperial city of the Hindus, we pass over the mosques at Canouge, Dhar, Mandoo, Jaunpore, &c., which were built in the same style; for, though full of interest in themselves, they do not possess sufficient individual character to require detailed descriptions of each. Nor will it be necessary again to allude to the Pillars of Victory which the Moslems erected at Gour,[3] Dowlutabad,[4] Coel, Hissar,[5] or elsewhere, wherever indeed they wished to signalise and commemorate their triumph over the Infidels.

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[1] Asiatic Researches, vol. iv. p. 313.

[2] Translated by Walter Ewer, Asiatic Researches, vol. xiv. p. 480.

[3] Daniell's Views in the East.

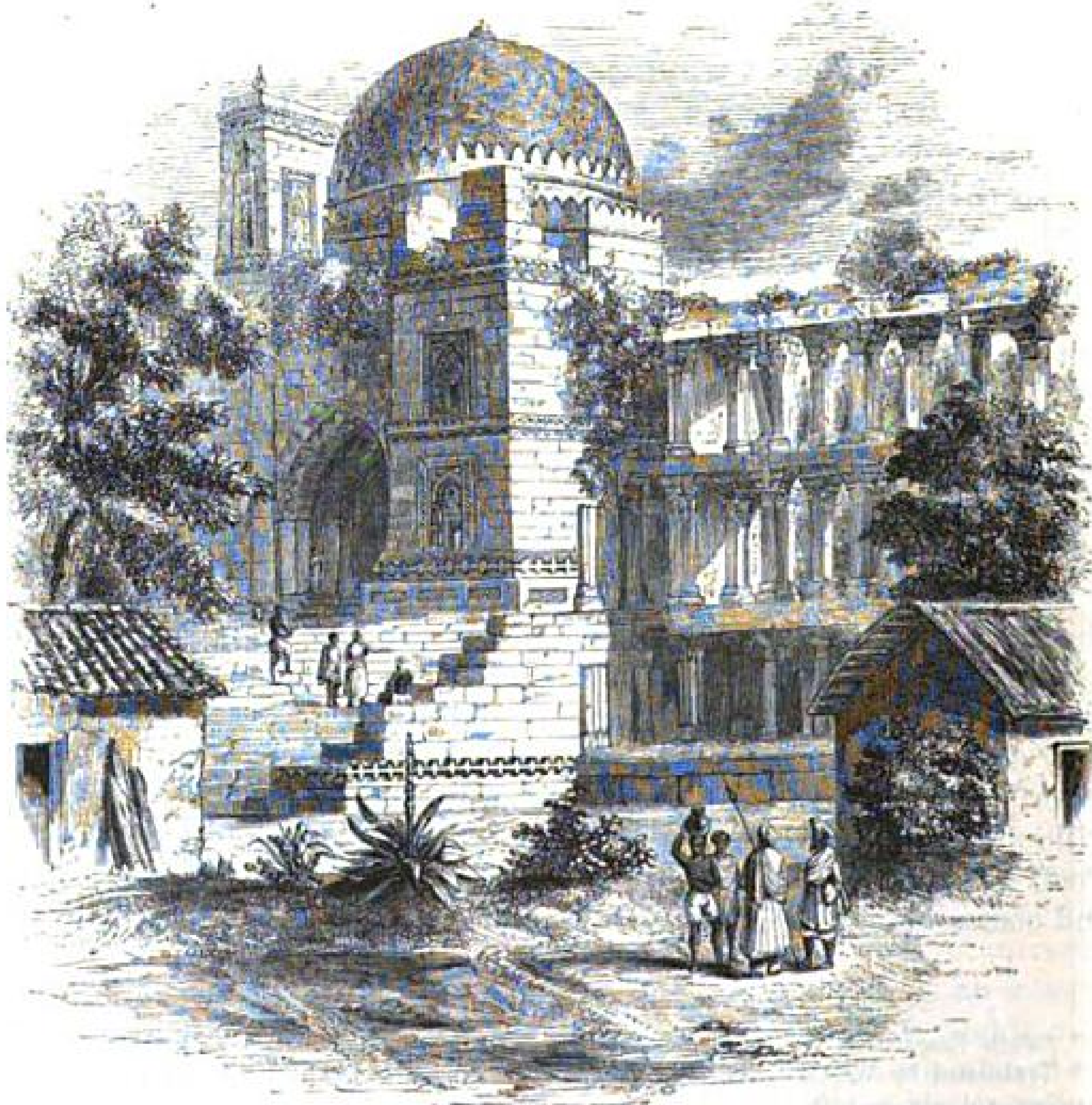
[4] Capt. Grindlay's Views in the East. In neither of these works are the plates numbered.

[5] J.A.S.B. vol. vii. plate xxvi.

Jaunpore.

About two centuries after the conquest of India by the Moslems, Khoja Jehan, the Soubahdar or governor of the province in which Jaunpore is situated, assumed independence, and established a dynasty which maintained itself for nearly a century, from A.D. 1397 to about 1478,—and though then reconquered by the sovereign of Delhi, it still retained a sort of semi-independence till finally incorporated in the Mogul empire by the great Akbar. During this period it was adorned by several large mosques, three of which still remain tolerably entire, and a considerable number of tombs, palaces, and other buildings, besides a fort and bridge, all of which are as remarkable specimens of their class of architecture as are to be found anywhere in India.

The Jumma Mesjid, or Friday mosque, was commenced by Shah Ibrahim, A.D. 1419, but not completed till the reign of Hosein 1451–1478. It consists of a court-yard 220 ft. by 214, on the western side of which is situated a range of buildings, the central one covered by a dome 40 ft. in diameter, in front of which stands a gate pyramid or *propylon*,[1] of almost Egyptian mass and outline, rising to the height of

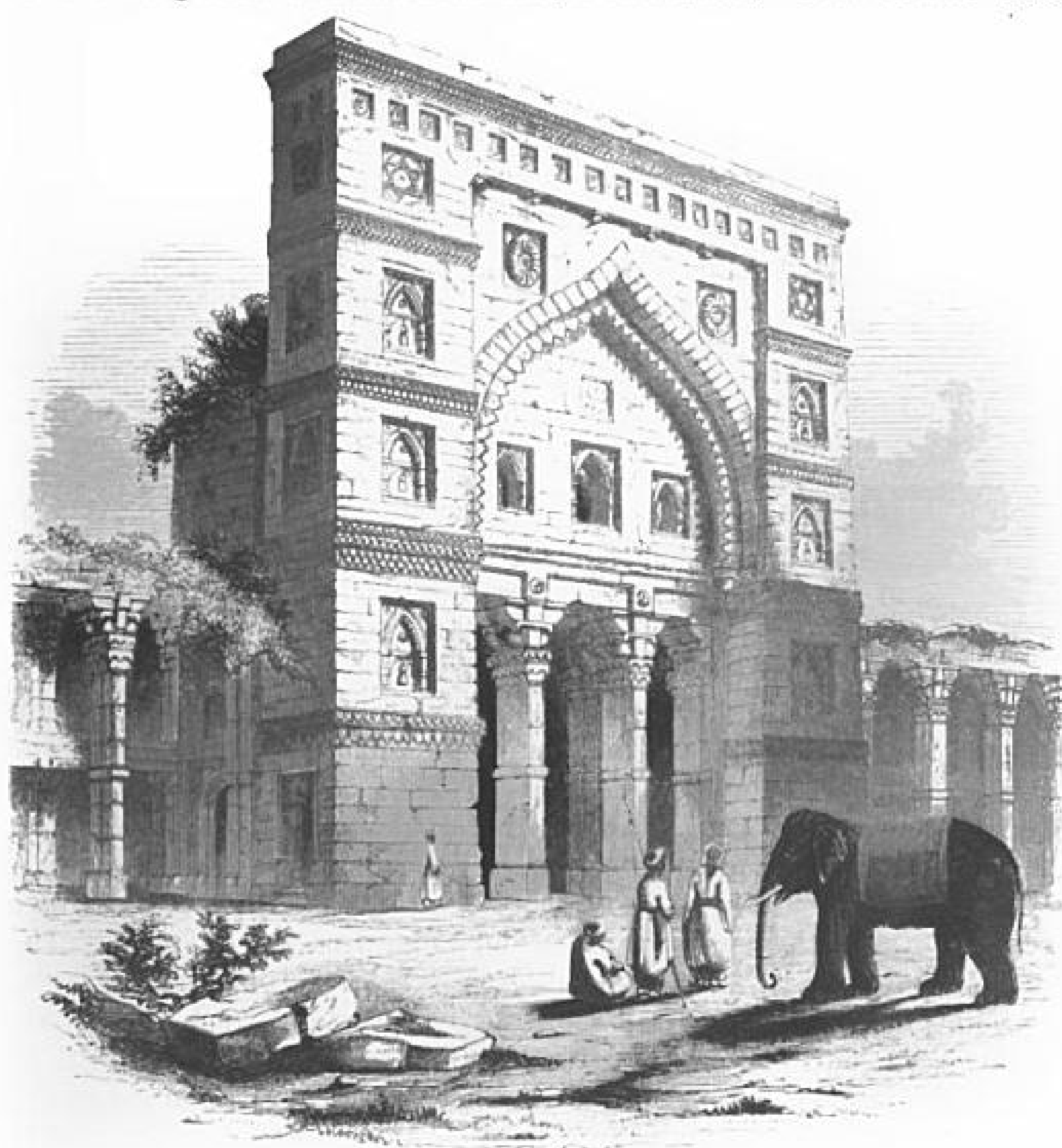


339. View of Lateral Gateway of Jumma Mesjid, Jaunpore.

[1] A view of it, not a good one, is given in Daniell's plates.

86 ft. This gate pyramid by its elevation supplied the place of a minaret, which none of these mosques possess. On each side of the dome is a compartment divided into two stories by a stone floor supported on pillars; and beyond this on each side is an apartment, 40 ft. by 50, covered by a bold pointed vault with ribs, and so constructed that its upper surface forms the external roof of the building, which in Gothic vaults is scarcely ever the case.

The three sides of the court-yard were surrounded by double colonnades two stories in height internally, but with three on the exterior, the floor of the court-yard being raised to the height of the lower story. On each face was a handsome gateway; one of which is represented in woodcut No. 339, which gives a fair idea of the style: the greater part of the eastern side of the court has been taken down and removed by the English to repair station-roads and bridges, for which in their estimation these pillars are admirably adapted. The smallest of the mosques is the Lall Durwaza, or Red Gate. It is in the same



340. Lall Durwaza Mosque, Jaunpore.

style as the others; and its propylon—represented in woodcut No. 340—displays not only the bold massiveness with which these

mosques were erected, but shows also that strange admixture of Hindu and Mahometan architecture which pervaded the style during the whole period of its continuance in India.

Of the three mosques remaining at Jaunpore, the Atala Mesjid is the most ornate and the most beautiful. The colonnades surrounding its court are four aisles in depth, the outer columns of which are double square pillars, as are also those adjoining the interior of the court. The three intermediate rows are single square columns. This is altogether so like an Indian arrangement, that I at one time was half inclined to agree with Baron Hugel, and fancy that this really was an old Buddhist monastery. Its gateways, however, which are purely Saracenic, are the principal ornaments of the outer court, and the western face is adorned by 3 propylons similar to that represented in the last woodcut, but richer and more beautiful, while its interior domes and roofs are superior to any other specimen of Mahometan art I am acquainted with of so early an age.

The other buildings hardly require particular mention, though, as transition specimens from one style to another, these Jaunpore examples are well worthy of illustration, and in themselves possess a simplicity and grandeur not often met with in this style. An appearance of strength, moreover, is imparted to them by their sloping walls, which is foreign to our general conception of Saracenic art. Among the Pathans of India the expression of strength is as characteristic of the style as massiveness is of that of the Normans in England. In India it is found conjoined with a degree of refinement seldom met with elsewhere, and totally free from the coarseness usually combined with vigour and boldness of design in other countries.

Gour.

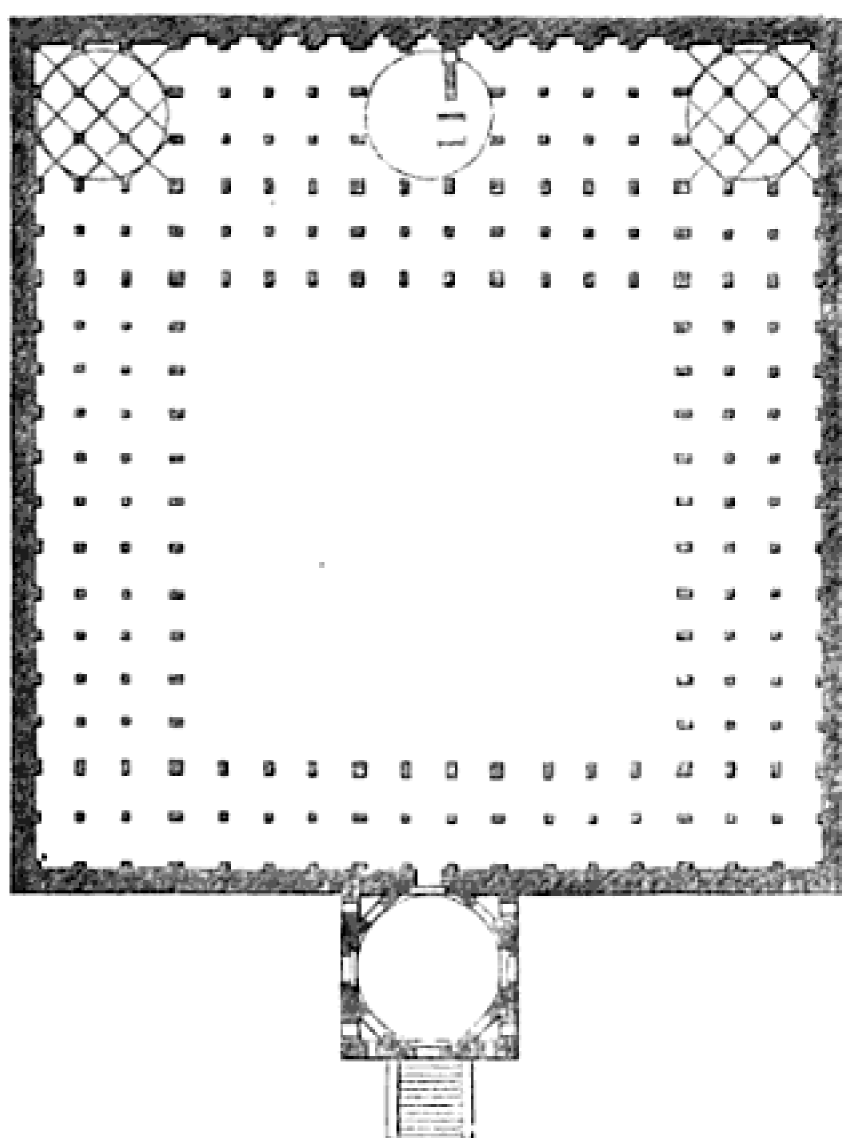
The city of Gour, in Bengal, long the Hindu capital of the lower country, and for more than three centuries the seat of an independent Pathan kingdom, possesses within its walls and in its neighbourhood a series of ruins, principally mosques, well worthy of attentive study. Owing perhaps to the materials being principally brick, they do not possess the largeness and grandeur of the Jaunpore examples. The influence of Hindu art here shows itself more in an extreme elaboration of minute detail than in any influence it exerted on the original character of the Pathan conceptions.

The worst feature in the designs of the Gour mosques is, that, like that at Cordoba, they want variety and subordination of parts. The great Adinah, built by Sekander Shah (A.D. 1358 to 1367), for instance, is a building 500 ft. north and south by 300 east and west, containing a court-yard, surrounded on all sides by a thick brick wall, cut up into 88 similar arcaded openings, only one of which, that on the centre facing Mecca, is larger and more dignified than the rest. The roof in like manner is supported by 266 pillars of black marble, of a bold and pleasing design, it must be confessed, but wanting in variety; and these and the walls support no less than 385 domes, all similar in de-

sign and construction.[1] The only variety that exists is where a platform, called the Padshah ka Tukht, or "King's throne," cuts the height as at Jaunpore into two stories. For a caravanserai such a design would be appropriate; but in an edifice where expression and beauty were absolutely required it is far too monotonous. The same defect runs through the whole group; and though their size and elegance of details, joined with the picturesque state of richly foliaged ruin in which they are now found, make them charming subjects for the pencil, they possess all the defects of design we remarked in the great halls of a thousand columns in the south of this country.[2] It seems, indeed, almost as if here we had again got among the Tamul races, and that their peculiarities were again coming to the surface, though dressed in the garb of a foreign race.

Mandoo.

A far finer specimen of a Pathan mosque is that built by the Ghori sovereigns of Mandoo, in that capital, where they reigned from A.D. 1387 to 1435. It was principally, if not altogether, erected by Hoshang, the second king, A.D. 1305 to 1432. It is smaller than the Adinah mosque, being only 290 ft. by 275 externally. Internally the court-yard is almost an exact square of 162 ft., and would be quite so, were it not that two of the piers on the east and west faces are doubled. In other respects the four sides of the court are exactly similar, each being ornamented by eleven great arches of exactly the same dimensions and height, supported by piers or pillars, each of one single block of red sandstone. The only variety attempted is, that the east side is only two arcades in depth, the north and south three, while the west side, or that facing Mecca, has five, besides being ornamented by three great domes, each 42 ft. in diameter.



341. Plan of Mosque at Mandoo.

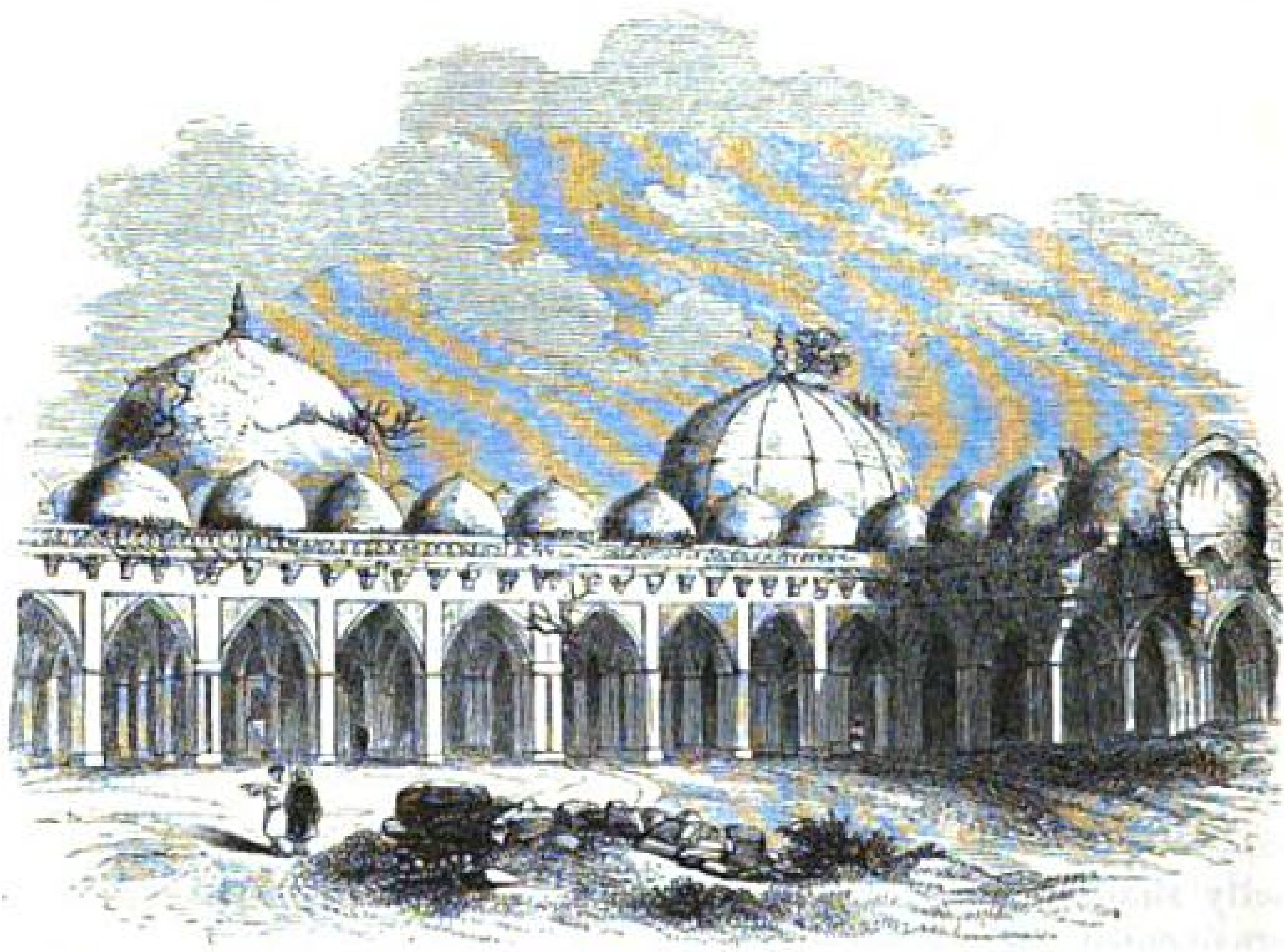
As will be seen in the plan (woodcut No. 341), these large domes

[1] These particulars are taken principally from Buchanan Hamilton's Statistics of Dinajepore, published by Montgomery Martin in 'Eastern India.'

[2] P. 98 *et seqq.*

are supported each by twelve pillars. The pillars are all equally spaced, the architect having omitted, for the sake of uniformity, to widen the central avenues on the intersection of which the domes stand. It follows from this that the four sides of the octagon supporting the dome, which are parallel to the sides of the court, are shorter than the four diagonal sides. Internally this produces a very awkward appearance; but this could not have been avoided except by running into another difficulty,—that of having oblong spaces at the intersections of the wider aisles with the narrower, to which the smaller domes must have been fitted. Perhaps on the whole the architect took the less inconvenient course of the two.

The interior of the court is represented woodcut No. 342, and



342. Court-yard of Great Mosque at Mandoo. From a Sketch by the Author.

for simple grandeur and expression of power it may perhaps be taken as one of the very best specimens now to be found in India. It is, however, fast falling to decay, and a few years more may deprive it of most of that beauty with which it impressed me when I visited it in 1829.

Ahmedabad.

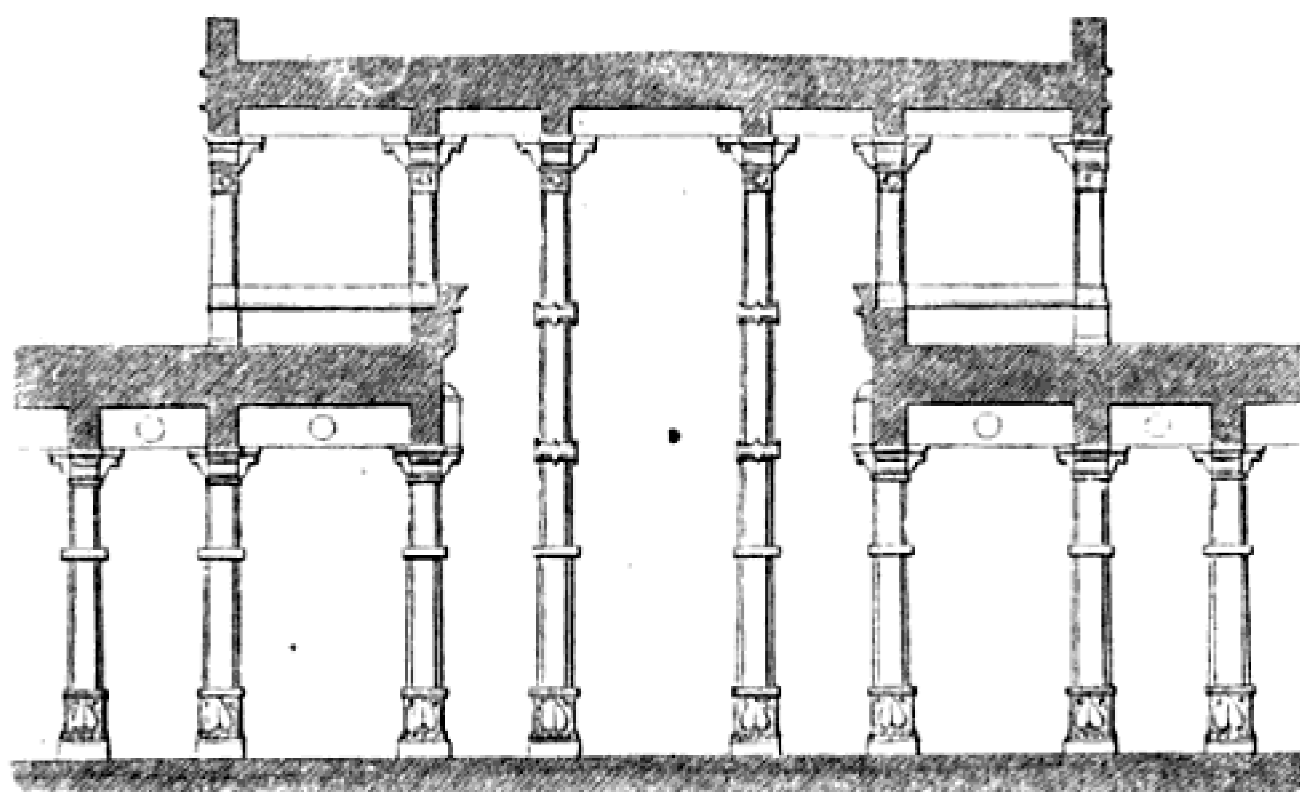
The city of Ahmedabad, the Moslem capital of Guzerat, is as rich in splendid mosques as Jaunpore or any of the provincial capitals of India, and their style is as distinctive of their locality as in any other instance in this country.

The town was built by Ahmed Shah, the second king of his race, who reigned from 1412 to 1443. He founded the great mosque, which for extent and beauty of detail seems to surpass everything of its class, even in India. In this instance the style is Jaina, and the archi-

tecture may be said to be that of the contemporary temple at Sadree (woodcuts Nos. 54, 55), with details borrowed from the still older temples at Abu (woodcut No. 44). This peculiarity arose not only from the locality, but also because the dynasty was originally of Hindu race, and clung to their own style and old feelings notwithstanding their conversion to Mahomedanism. The admixture of the elaborate and graceful forms of Jaina with the larger and taller proportions of Saracenic architecture makes this style as pleasing, if not more so, than any of the various forms the style takes in India.

All the Ahmedabad mosques are similar in design, and vary only in size. They consist of a courtyard surrounded on three sides by open colonnades, the fourth occupied by the mosque itself. This is entered from the court by three large doors, and is surmounted by three domes of somewhat flat outline externally, but internally as richly ornamented as any the Jains ever built.

These are invariably supported, like those of the Jains, on 8 pillars, made up to a square with 4 more, so that the smaller mosques have 36 pillars internally, the larger probably twice that number. In all instances the central compartment is raised considerably, and the light



343. Section of Mosque at Ahmedabad.

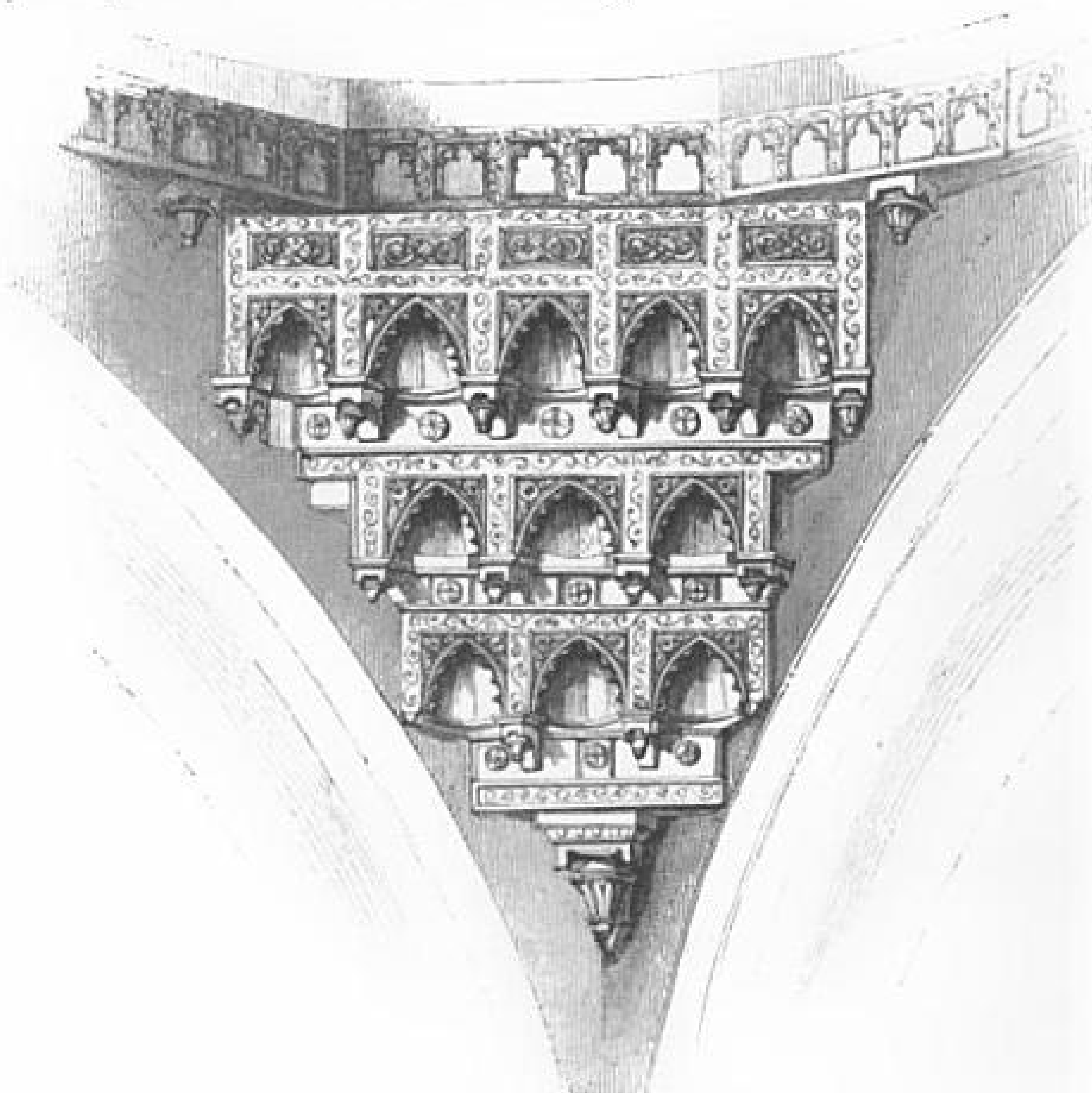
admitted through the double colonnade in the roof, as shown in the diagram (woodcut No. 343). This arrangement is similar to the hypethron of the Egyptians explained above (pages 230 *et seq.*), and is identical with that illustrated in woodcut No. 112 as having existed at Khorsabad.

The minarets of these mosques are attached to the central compartment, flanking each side of the principal entrance, and being of a bold Saracenic outline, covered with the richest and most elaborate Hindu carving, they are the most gorgeous things of their kind in India, though neither so graceful as those of Cairo nor so elegant as some at Agra and Delhi.

The Guzerat dynasty being of Hindu origin, has left no tombs worthy of notice. But their palaces, their bowlees, and generally their civic buildings, are as beautiful and as splendid as their mosques, but unfortunately as little known either from drawings or descriptions.

Delhi and Agra.

The older Pathan mosques at Delhi and its neighbourhood show the same peculiarities of simple uniformity of design, and number of small domes generally grouped around one or three larger ones. Before the conquests by the Moguls, however, this style had in a great measure been superseded by a more artistic and ornamental style of buildings. The body of the mosque became generally an oblong hall, covered by one central dome flanked by two others of the same horizontal dimensions, but not so lofty, and separated from the central dome by a broad bold arch, whose mouldings and decorations formed one of the principal ornaments of the building.

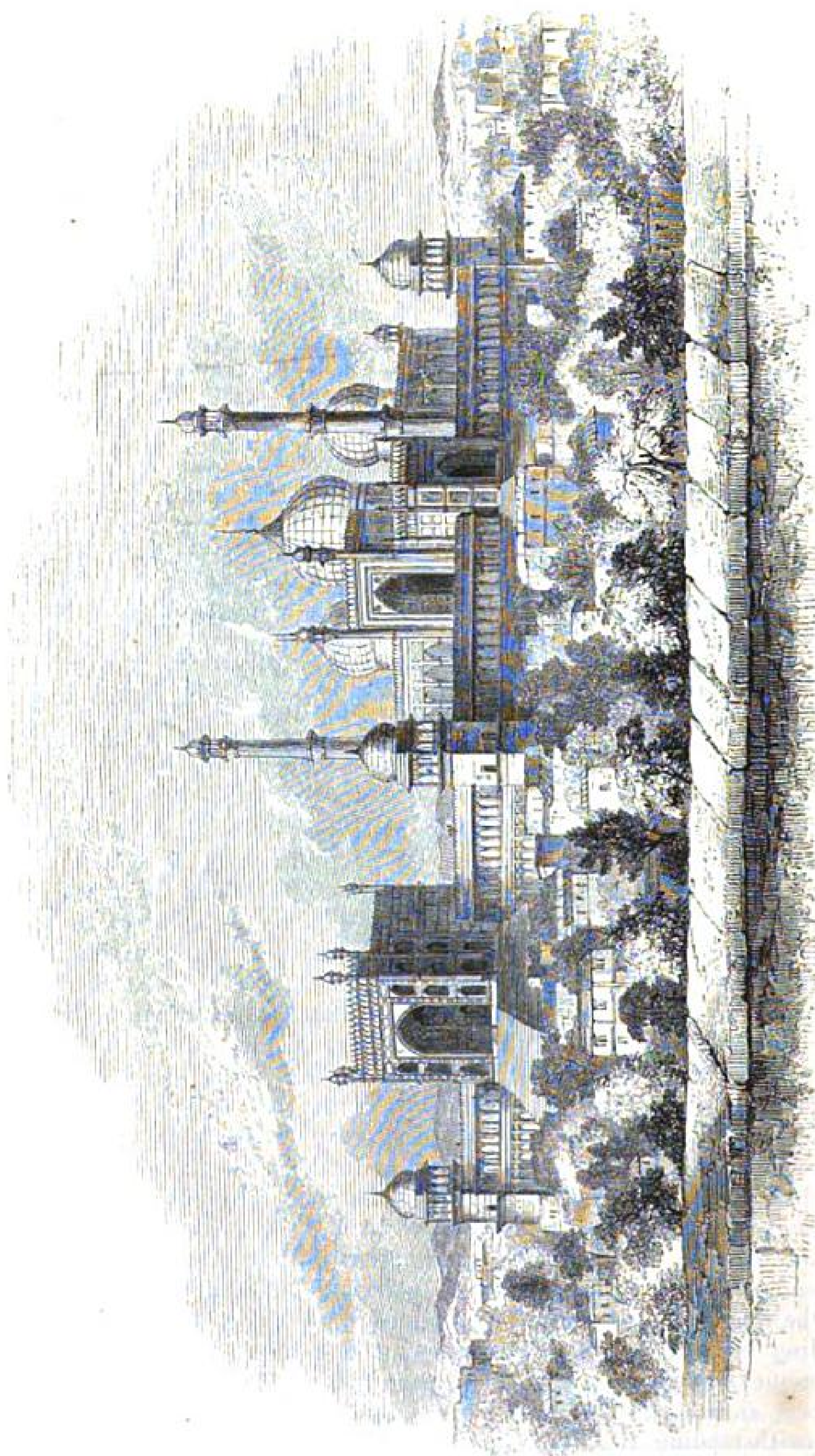


344. Pendentive from Mosque at Old Delhi.

The *pendentives* were even more remarkable than the arches for elaborateness of detail. Their forms are so various that it is impossible to classify or describe them; perhaps the most usual is that represented woodcut No. 344, where the angle is filled up with a number of small imitations of arches, bracketing one beyond the other. It was this form that afterwards was converted into the honeycomb work of the Arabs in Spain.

The façades of these mosques too became far more ornamental and more frequently encrusted with marbles, and always ornamented with sculpture of a rich and beautiful character; the angles of the building were also relieved by little kiosks, supported by four richly bracketed pillars, but never with minarets, which, so far as I know, were never attached to mosques during the Pathan period. The call to prayer was made from the roof, or at Jaunpore perhaps from the top of the great propylon; but I do not know one single instance of a minaret built for such a purpose, though they were, as we know, universal in Egypt and elsewhere long before this period, and were considered nearly indispensable in the works of the Moguls very shortly afterwards. They seem to have regarded the minar as the Italians viewed the *Campanile*, more as a symbol of power and of victory than as an adjunct to a church, which it became under the true Gothic architects of the North.

When the Moguls had established themselves on the throne of the defeated Pathans, in the early part of the 16th century, they found the style of architecture wholly emancipated from the trammels of Indian art, from which it had sprung, and forming in itself a complete and uniform system almost without any foreign admixture. In this form the style was adopted by Humayun, and characterises all his buildings. Akbar, his son, seems to have had a singular predilection for Hindus and Hinduisms, and nowhere did he show this more than in his buildings, which present the most picturesque assemblages possible of Mahometan forms and exigencies carried out with Hindu feeling and Hindu richness and elegance of design. His two next successors, Jehangir and Shah Jehan, wholly abandoned this peculiar style, which they seem to have regarded as a retrograde step, and pursued the more legitimate path of art, reforming its details and improving the elegance of their designs. By these means their buildings, especially their mosques, became models of elegance and also of appropriateness. The purpose of every part was fully and distinctly expressed, and with a fitness not often found elsewhere in this style. Thus the principal side of their mosques is always an independent building, generally covered by three domes, of the bulb-like form which these monarchs first introduced into India, and is adorned with minarets. The side colonnades with their gateways, which have again become important buildings, are always kept in graceful subordination to the western mass, and the whole is so carefully studied and so elegantly ornamented, that it is frequently impossible to suggest an improvement. But with all this, I question much if almost every artist and many architects would not prefer the clumsy splendour of the Pathans, with all their rude but manly magnificence, to the refined but somewhat emasculated grace of the Moguls. My own feeling is entirely with the former; and even Akbar's works, picturesque though they are, seem more the result of caprice than the honest endeavours to attain beauty that mark those of the Pathans. Notwithstanding this, it seems more than doubtful if Cairo, or any western city, can boast of mosques so beautiful as those of Futtehpore



345. Great Mosque at Delhi from the N.E. From a Sketch by the Author.

Sicri or those of the imperial cities Agra and Delhi. We have not yet, however, reached that point of knowledge of the style when comparative criticism is easy, or at least easily conveyed to others.

Perhaps the finest of these Mogul mosques is that built by Akbar at his favourite residence of Futtehpore Sicri, near Agra; but it cannot be considered so complete a type of the style as the Jumma Musjid, or great Mosque of Delhi, built by Shah Jehan on his removing the capital to its present site. Its appearance will be understood from the view on the opposite page, taken from one of the palace gates. It explains all the parts by which a mosque of this age was usually characterised,—the western part with its lofty centre, three domes, and two minarets, and the court-yard with its open colonnades, its towers at the angles, and three gateways, the eastern one being always more splendid than those on the north and south. The whole thus forms a group intelligible at the first glance, and as an architectural object possessing a variety of outline and play of light and shade which few buildings can equal.

The terrace on which this mosque is raised, as well as all the essential parts of it, are composed of fine red sandstone, but the principal façade is ornamented with panels and bands of white marble, and the interior is almost wholly composed of the same material.

The subordinate mosques have not all the parts here shown, nor of course are they on so large a scale; the general design, however, is in most cases similar, and, even when many parts are omitted, the remaining parts are so subdued and arranged that the completeness of the whole is not impaired.

By far the most elegant mosque of this age—perhaps indeed of any period of Moslem art—is the Mootee Mesjid, or Pearl mosque, built by Shah Jehan in the palace of Agra. Its dimensions are considerable, being externally 235 ft. east and west by 190 north and south, and the court-yard 155 ft. square.

Its mass is also considerable, as the whole is raised on a terrace of artificial construction, by the aid of which it stands well out from the surrounding buildings of the fort. Its beauty resides in its court-yard, which is wholly of white marble from the pavement to the summit of its domes. In design it somewhat resembles the great Delhi mosque represented in the last woodcut, except that the minarets are omitted, and in this example the side gateways are only recesses. The western part, or mosque properly so called, is of white marble inside and out, and, except an inscription from the Koran inlaid with black marble as a frieze, it has no ornament whatever beyond the lines of its own graceful architecture. It is, in fact, so far as I know, less ornamented than any other building of the same pretensions, forming a singular contrast with the late buildings of this style in Spain and elsewhere, which depend almost wholly for their effect on the rich exuberance of the ornament with which they are overlaid.

The bigoted Aurungzebe built many large and splendid mosques; but even in his day the style was visibly on the decline, and, though many gorgeous edifices of this class have since then been erected

at Oude, Hydrabad, and other Moslem capitals, their style is so degraded and corrupt, that they will not bear to be mentioned with those we have been describing. It will be needless, therefore, to attempt to recapitulate their names and dimensions. Accordingly we proceed to speak of the tombs and other works of their nobler predecessors, which it is necessary to describe to make up a complete picture of the style.

Tombs.

As has been frequently remarked in the previous pages of this work, the great architectural peculiarity of the Tartar or Mongolian races is their tomb-building propensity, in which they are so strongly distinguished from the Arian, and also from the great Semitic families, with whom they divide the greater part of the habitable globe. Nowhere is this more forcibly illustrated than in India—where the tombs of the Turks and Moguls form a complete and unbroken series of architectural monuments from the first years of the Moslem invasion to the present hour.

The tombs of the Turks or Pathans are less splendid than those of the Moguls; but nevertheless the whole series is singularly interesting, the tombs being far more numerous than the mosques. Generally speaking, also, they are more artistic in design, and frequently not only larger but more splendidly decorated than the buildings exclusively devoted to prayer.

The princes of the Tartar races, in carrying out their love of tombs, made it their practice to build their own in their lifetime. In doing this they rejected the Egyptian mode of preparing dark and deep chambers in the heart of the rock, or of the massive pyramid. The Tartars, on the other hand, built their sepulchres of such a character as to serve for places of enjoyment for themselves and their friends during their lifetime, and only when they could enjoy them no longer they became the solemn resting-places of their mortal remains.

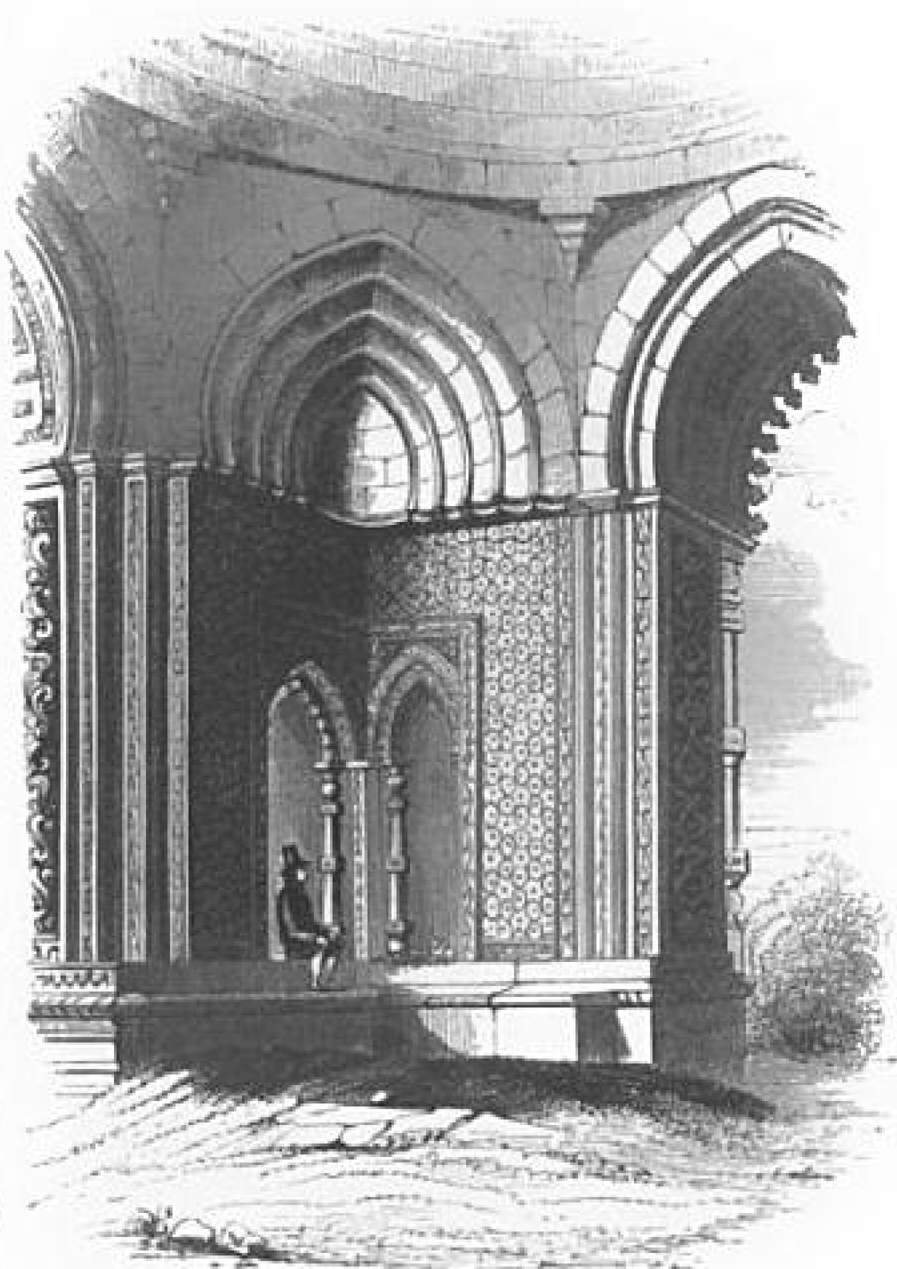
The usual process for the erection of these structures is for the king or noble who intends to provide himself a tomb to enclose a garden outside the city walls, generally with high crenellated walls, and with one or more splendid gateways; and in the centre of this he erects a square or octagonal building, crowned by a dome, and in the more splendid examples with smaller and dome-roofed apartments on four of the sides or angles, the other four being devoted to entrances. This building is generally situated on a lofty square terrace, from which radiate four broad alleys, generally with marble-paved canals ornamented with fountains; the angular spaces are planted with cypresses and other evergreens and fruit trees, making up one of those formal but beautiful gardens so characteristic of the East. During the lifetime of the founder, the central building is called a Barrah Durrie, or festal hall, and is so used as a place of recreation and feasting by him and his friends.

At his death its destination is changed,—the founder's remains are interred beneath the central dome. Sometimes his favourite wife lies

beside him; but more generally his family and relations are buried beneath the collateral domes. When once used as a place of burial, its vaults never again resound with festive mirth. The care of the building is handed over to priests and cadims, who gain a scanty subsistence by the sale of the fruits of the garden, or the alms of those who come to visit the last resting-place of their friend or master. Perfect silence now takes the place of festivity and mirth. The beauty of the surrounding objects combines with the repose of the place to produce an effect as graceful as it is solemn and appropriate.

Though the tombs, with the remains of their enclosures, are so numerous throughout all India, the Taje Mehal, at Agra, is almost the only one that retains its garden in anything like its pristine beauty, and there is not perhaps in the whole world a scene where nature and art so successfully combine to produce a perfect work of art as within the precincts of this far-famed mausoleum.

The oldest authentic tomb in India is that built for himself by Altumsh, behind the great range of arches of the Kootub, as shown in the plan (woodcut No. 335). Though small, its workmanship is, like that of the mosque itself, of exquisite beauty; but either it was left unfinished, or has been subsequently ruined, as it has now no roof.

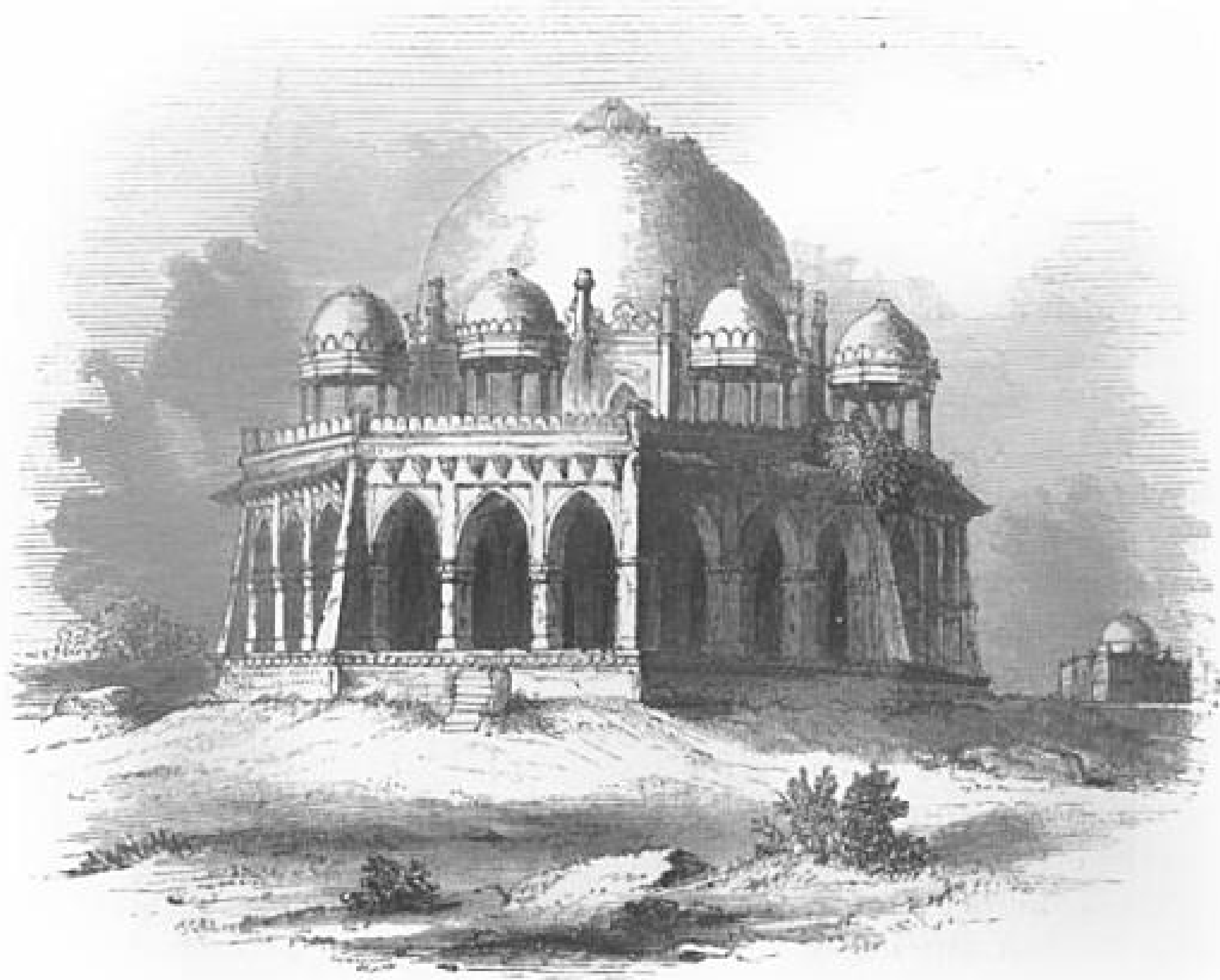


346. Pendentive in Tomb at Old Delhi.

A more beautiful tomb than even this is the other, shown on the left hand of the same plan: at least a century more modern, though its date and the name of its founder are unknown. Its walls internally are decorated with a diaper pattern of unrivalled excellence, and the mode in which the square is changed into an octagon is more simply elegant than any other example I am acquainted with in India. It is earlier than the *pendentive* shown in the woodcut No. 344; but the two may be taken as favourable specimens, this one of the simple, the other of the more ornate mode of effecting the change of form necessary to place a circular dome on a square apartment. Both these forms are much more

beautiful than the usual honeycomb work of the later Spanish Arabs, or even than the pendentives in the mosque of Hassan at Cairo. The only foreign rival they have, so far as I know, is that of the tomb at Sultanieh, illustrated above (woodcut No. 328). It would require a volume to illustrate this one feature of Indian art alone, no two spandrils being alike, and the architects seeming to have exhausted almost every conceivable form in their endeavour to render this indispensable feature as ornate as possible.

The usual form of a Pathan tomb will be better understood from the following woodcut (No. 347), representing a nameless sepulchre among the hundreds that still strew the plains of Old Delhi. It consists of one octagonal apartment, about 50 ft. in diameter, surrounded by a verandah following the same form, each face being ornamented by 3 arches of the stilted shape almost always adopted by the Pathans, supported by double square columns, which are almost as universal with them as the form of arch. It is evidently a reminiscence of the Hindu art from which their style sprang.



347. Tomb at Old Delhi.

When that stern old warrior, Togluck Shah (1321), founded the new Delhi, which still bears his name, he built himself a tomb, not in a garden, but in a strongly fortified citadel in the middle of an artificial lake. The sloping walls and almost Egyptian solidity of this mausoleum, combined with the bold and massive towers of the fortification that surround it, form a picture of a warrior's tomb unrivalled any-

where, and a singular contrast with the elegant and luxuriant garden tombs of the more settled and peaceful dynasties that succeeded.

The tomb of Sher Shah, the last of the Pathans, is situated in the middle of an artificial tank at Sasseram, near Benares, and is one of the largest, though certainly not the best, of the Pathan tombs. In design it is very similar to that represented in woodcut No. 347, but the central apartment is an octagon 100 ft. in diameter. It stands too on a massive square terrace, each angle of which is ornamented with an octagonal kiosk, and the various smaller pavilions and kiosks make up an architectural object of great beauty and picturesqueness of effect.

As a general rule, the Pathan tombs are complete examples of the Saracenic style, and show but slight traces of Hindu design. But this was not always the case; and, as in their earlier mosques, they sometimes appropriated the remains of Jaina architecture to save themselves the trouble of erecting the whole building from original materials. Frequently these compound edifices are composed of only 4 pillars supporting a small dome; but more generally, as in that represented woodcut No. 348, of 12, arranged as the Jaina domes usually are,[1] consisting of an octagon worked out to a square, and supporting a dome of slightly pointed form.



348. Pathan Tomb at Shepree near Gualior. From a Sketch by the Author.

As will be remarked, the tomb is almost an exact counterpart in design with that at Halicarnassus (woodcut No. 292), showing a

[1] See p. 72 *et seqq.*

curious persistence in the use of this arrangement, though it must be confessed it is one of the most beautiful ever invented.

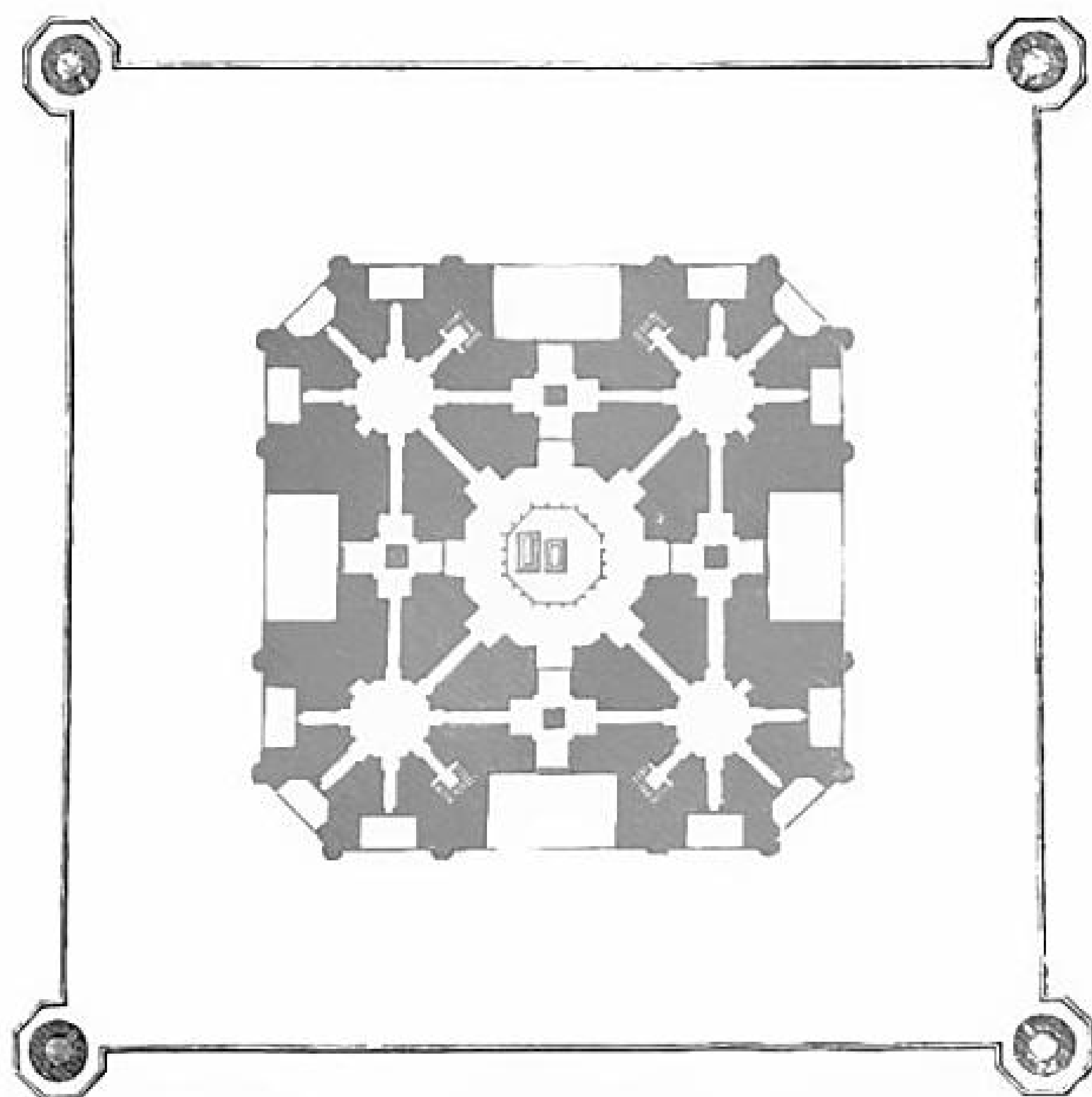
At first sight the upper part of the building looks somewhat too massive for the substructure; but its destination as a tomb renders this appropriate, and was apparently intended by the architect to produce that solemnity which the closed walls impart to the ordinary forms of sepulchres.

The tomb of Humayun Shah, the first of the Moguls who was buried in India, still stands tolerably entire among the ruins of Old Delhi, of which indeed it forms the principal and most striking object. That of Akbar, at Secundra, near Delhi, is, like all his buildings and doings, exceptional, and unlike those of any of his race, but still of great magnificence. The latter tomb is pyramidal in external form. The outer or lower terrace is 320 ft. square by 30 in height, and its architecture is bold and massive. On this terrace stands another far more ornate, measuring 186 ft. on each side, and 14 ft. 9 in. in height. A third and a fourth of similar design, and respectively 15 ft. 2 in. and 14 ft. 6 in. high, stand on this, all these being of red sandstone. Within and above the last is a white marble enclosure, 157 ft. each way, or externally just half the length of the lowest terrace; the outer wall of this is entirely composed of marble trellis-work of the most beautiful patterns. Inside it is surrounded by a colonnade of the same material; in the centre of this cloister, on a raised platform, is the tombstone of the founder, a splendid piece of the most beautiful arabesque tracery. This however is not the true burial-place; but the mortal remains of this great king repose under a far plainer tombstone in a vaulted chamber in the basement 35 ft. square, exactly under the simulated tomb that adorns the summit of the mausoleum.

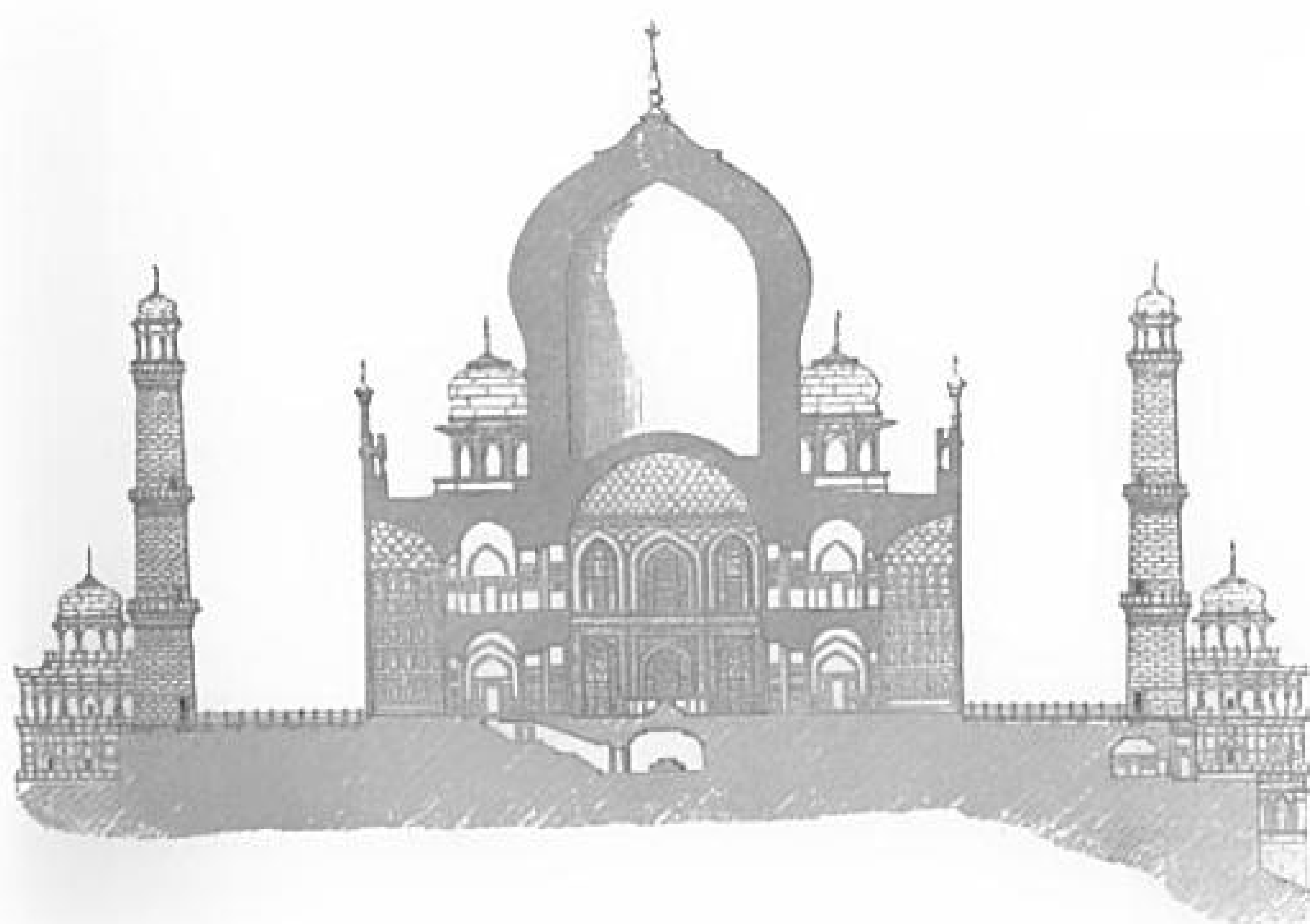
The typical example of the tombs of this race is the celebrated Taje Mehal—the tomb which Shah Jehan erected at Agra, to contain the remains of his favourite wife, Moomtaza Mehal, meaning to erect a more splendid mausoleum for himself on the opposite side of the river. But this was not carried into effect, and he rests in this same sepulchre beside his wife, she occupying the centre, a place of honour due to her precedence in the race of death.

The plan and section (woodcuts No. 349 and No. 350) explain sufficiently the general arrangement and structural peculiarities of the tomb or principal building of the group. This is, however, only a part of the whole design, and cannot be judged of by itself without its accompaniments. The enclosure, including the gardens and outer court, is a parallelogram of 1860 ft. by more than 1000.[1] The outer court, surrounded by arcades and adorned by 4 gateways, is an oblong, occupying in length the whole breadth of the enclosure by about 450 ft. in depth. The principal gateway, measuring 110 ft. by 140, leads from the court to the gardens, which, with their marble canals and fountains and cypress-trees, are almost as beautiful as the tomb itself.

[1] The section has been engraved to a small scale of rather more than 100 ft. to 1 in. in order to bring it into the page.



349. Plan of Taje Mehal, Agra. From a plan by the Author. Scale 100 ft. to 1 in.



350. Section of Taje Mehal, Agra.

The tomb stands on a raised platform 18 ft. high, faced with white marble, and exactly 313 ft. square. At each corner of this terrace stands a minaret 133 ft. in height, and of the most exquisite proportions, more beautiful perhaps than any other in India. In the centre of the marble platform stands the mausoleum, a square of 186 ft., with the corners cut off to the extent of 33 ft. 9 in. The centre of this is occupied by the principal dome, 58 ft. in diameter and 80 ft. in height, under which is an enclosure formed by a screen of trellis-work of white marble, which is a chef-d'œuvre of elegance in Indian art. Within this stand the two tombs. These, however, as is usual in Indian sepulchres, are not the true tombs,—the bodies rest in a vault level with the surface of the ground (as seen in the section) beneath the plainer tombstones placed exactly underneath those in the hall above.

In every angle of the building is a smaller dome of two stories in height, 26 ft. 8 in. in diameter, and these are connected, as shown in the plan, by various passages and halls.

The light to the central apartment is admitted only through double screens of white marble trellis-work of the most exquisite design, one on the outer, and one on the inner face of the walls. In our climate this would produce nearly complete darkness; but in India, and in a building wholly composed of white marble, this was required to temper the glare that otherwise would have been intolerable. As it is, no words can express the chastened beauty of that central chamber, seen in the soft gloom of the subdued light that reaches it through the distant and half-closed openings that surround it. When used as a Barrah Durrie, or pleasure palace, it must always have been the coolest and the loveliest of garden retreats; and now that it is sacred to the dead, it is the most graceful and the most impressive of the sepulchres of the world.

It is in this building that we first find that system of inlaying with precious stones which became the great characteristic of the style of the Moguls after the death of Akbar. All the *spandrils* of the Taje, all the angles and more important architectural details, are heightened by being inlaid with precious stones, such as agates, bloodstones, jaspers, and the like. These are combined in wreaths, scrolls, and frets, as exquisite in design as they are beautiful in colour, and, relieved by the pure white marble in which they are inlaid, they form the most beautiful and precious style of ornament ever adopted in architecture: though of course it is not to be compared with the intellectual beauty of Greek ornament, it certainly stands first among the purely decorative forms of architectural design.

This is lavishly bestowed on the tombs themselves and the screen that surrounds them, and is sparingly introduced on the mosque that forms one wing of the Taje, and on the fountains and surrounding buildings. The judgment indeed with which this style of ornament is apportioned to the various parts is almost as remarkable as the ornament itself, and conveys a high idea of the taste and skill of the Indian architects of this age.

Shah Jehan's successor, Aurungzebe, lies buried in a small hamlet just above the caves of Ellora. The spot is esteemed sacred, but the

tomb is mean and insignificant beyond what would have sufficed for any of his nobles. He neglected, apparently, to provide for himself this necessary adjunct to a Tartar's glory, and his successors were too weak, even if they had been inclined, to supply the omission. Strange to say, the sacred Tulsee-tree of the Hindus has taken root in a crevice of the brickwork, and is flourishing there as if in derision of the most bigoted persecutor the Hindus ever experienced.

In addition to these Imperial tombs, the neighbourhoods of Agra and Delhi are crowded with the tombs of the nobles of the court, some of them scarcely less magnificent than those of their masters. Among these, one erected by Etty mad doulah, the minister of Akbar, for himself, is one of the most splendid in elaboration, though far from being the most graceful in design. The whole is of white marble, and inlaid with precious stones in various patterns to a greater extent than even the Taje, or perhaps than any other building in India.

Besides these tombs, however, in the capital of the empire, there is scarcely a city of any importance in the whole course of the Ganges or Jumna, even as far eastward as Dacca, that does not possess some specimen of this form of architectural magnificence. Jaunpore and Allahabad are particularly rich in examples; but Patna and Dacca possess two of the most pleasing of the smaller class of tombs that are to be met with anywhere.

The tombs of the kings of Golconda are almost as well known by repute as their diamond-mines—and certainly form a splendid group of mausolea, but by no means equal in taste or grandeur to the examples we have been alluding to.

Mandoo also is rich; its finest example being that of Hoshang Shah, who built the great mosque immediately behind which it stands. It is of white marble both inside and out, and possesses all the solidity and grandeur of Pathan design, coupled with considerable beauty of form, and an appearance of elegance derived from the material of which it is composed.

Near Aurungabad is one built by Aurungzebe in honour of his first wife, and said then to have been an exact copy of the celebrated Taje Mehal, an assertion that has been often repeated since. The general arrangement of the body of the building and its 4 minarets is, it is true, the same; but every detail is different, and the general degradation of style in so short a period is one of the most remarkable phenomena in the history of art in the East. Something may be allowed for its being a provincial building; but with all this, it is difficult to understand how anything so tasteless, though so rich, could be erected by the immediate successor of that king who built the beautiful tomb to which it has been unworthily compared.

Beejapore.

The now deserted city of Beejapore[1] is one of the most remarkable among the ruined capitals of the Mahometan dynasties of India. It is

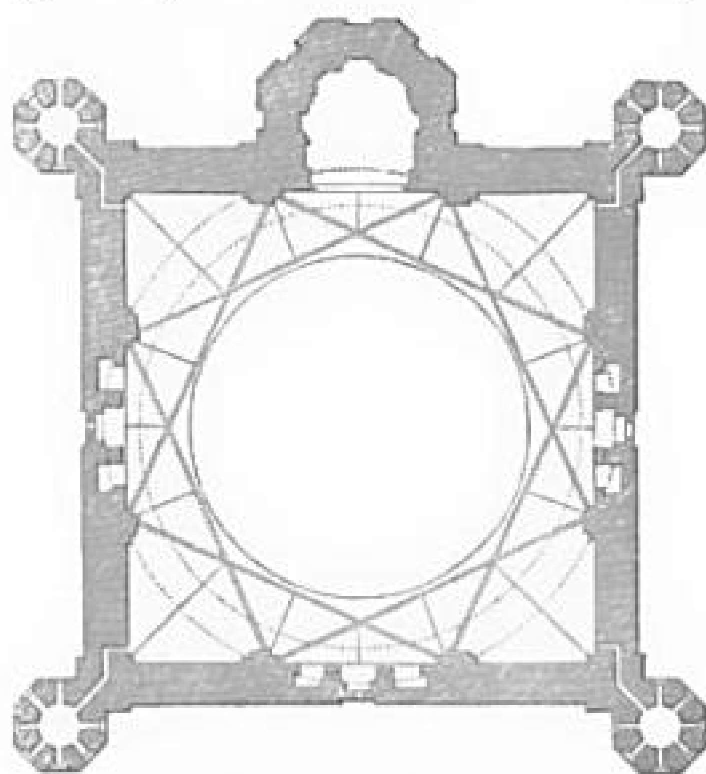
[1] Situated in the Deccan, about 250 miles south-east from Bombay.

true it neither possesses anything so elegant as the white marble buildings of Agra and Delhi, nor so elaborate as the mosques of Ahmedabad; but it is unsurpassed from the scale of some of its edifices, and remarkable for the largeness and grandeur of design which characterise all of them.

The city was founded by Yusuph Khan, a son of Amurath II. of Anatolia. The first three kings did little that was remarkable; but on the defeat of the celebrated Ramraj of Vyjyanuggar, in 1564, the dynasty rose to great wealth and power, and, during the century which elapsed from that time till they fell under the sway of the tyrant Aurungzebe, they adorned their capital with many remarkable and sumptuous edifices.

As might be expected from their Tartar descent, the principal of these were their tombs; and that of Mahomet, who reigned from 1626 to 1660, is not only the largest ever built by a Saracenic architect, but perhaps the very boldest and largest domical edifice now known to exist anywhere.

As will be seen from the plan (woodcut No. 351), it is a plain square apartment, 135 ft. each way; its area consequently is 18,225 square ft., while that of the Pantheon at Rome is, within the walls, only 15,833; and even taking into account all the recesses in the walls of both buildings, this is still the larger of the two.



351. Plan of Tomb of Mahomet at Beejapore. Scale 100 ft. to 1 in.

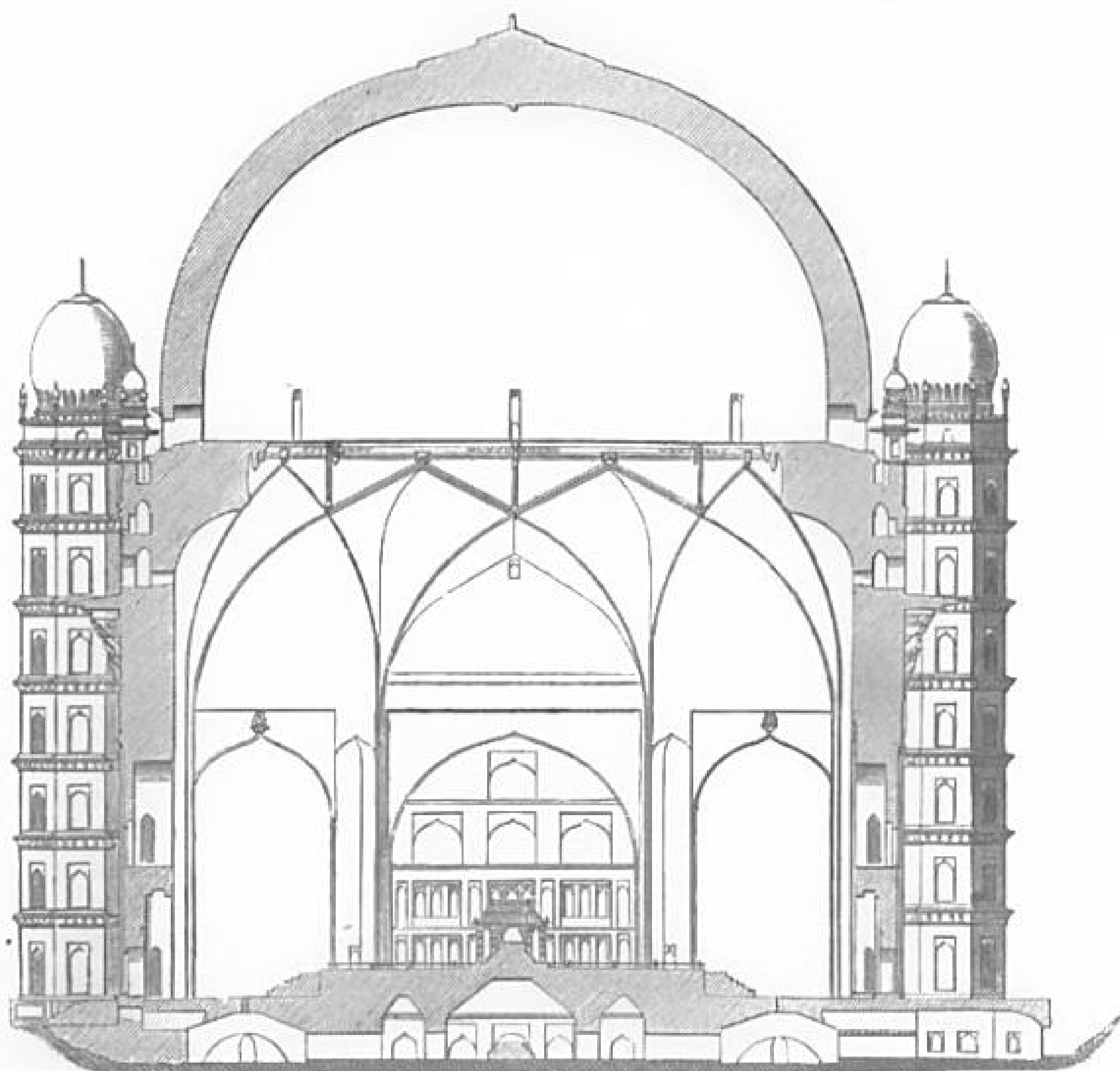
At the height of 57 ft. from the floor-line the hall begins to contract, by a series of pendentives as ingenious as beautiful, to a circular opening 97 ft. in diameter. The dome is erected on the platform of these pendentives, 124 ft. in diameter, thus leaving a gallery more than 12 ft. wide all round the interior. Internally, the dome is 175 ft. high, externally 198, its general thickness being about 10 ft.

The most ingenious and novel part of the construction of this dome is the mode in which its lateral or outward thrust is counteracted. This was accomplished by forming the pendentives so that they not only cut off the angles, but, as shown in the plan, their arches intersect one another, forming a very considerable mass of masonry perfectly stable in itself, and, by its weight acting inwards, counteracting any thrust that can possibly be brought to bear upon it by the pressure of the dome. If the whole edifice thus balanced has any tendency to move, it is to fall inwards, which from its circular form is impossible; but the action of the weight of the pendentive being in the opposite direction to that of the dome, it acts like a tie and keeps the whole in

equilibrium, and that without interfering at all with the outline of the dome.

In the Pantheon and most European domes a great mass of masonry is thrown on the haunches, entirely hiding the external form, and is a singularly clumsy expedient in every respect compared with the elegant mode of hanging the weight inside.

Notwithstanding that this expedient gives the dome a perfectly stable basis to stand upon, which no thrust can move, still, looking at the section (woodcut No. 352), its form is such that it appears almost

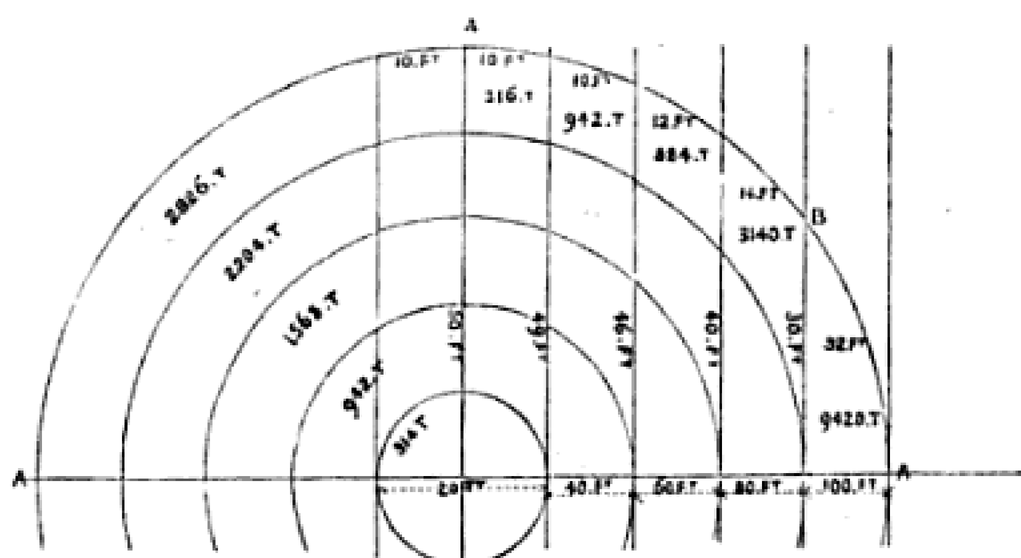


352. Section of Tomb of Mahomet at Beejapore. Scale 50 ft. to 1 in.

paradoxical that such a building should stand. If the section represented an arch or a vault, it is such as would not stand one hour; but the dome is in itself so perfect as a constructive expedient, that it is almost as difficult to build a dome that will fall as it is to build a vault that will stand. As it is besides the most beautiful form of roof artistically that has yet been invented, it may be well, before passing from the most extraordinary and difficult example yet attempted anywhere, to pause and examine a little more closely the theory of the dome.

Let us suppose the diagram (woodcut No. 353) to represent a perfectly flat dome 100 ft. in diameter, and each rim consequently 10 ft. wide.

Supposing further that the whole dome weighs 7850 tons, or any other weight, the outer rim will weigh 2826 tons, or almost exactly as much as the three inner rims put together; the next will weigh 2204, the next 1568, the next 942, and the inner only 314; so that a considerable extra thickness might be heaped on it, or on the two inner ones, without their preponderance at all affecting the stability of the dome; but this is the most unfavourable view to take of the case. To understand the case more clearly, let us suppose the semicircle A A A to represent the section of a hemispherical dome. The first segment of this, though only 10 ft. in width, will be 30 in height, and will weigh 9420 tons; the next, 10 ft. high and 10 wide, will weigh 3140; the third, 10 ft. by 6, will weigh only 1884; the fourth will weigh 942; and the central portion, as before, 316.



353. Diagram illustrative of Domical Construction.

Now it is evident that the first portion, A B, being the most perpendicular, is the one least liable to disturbance or thrust, and, being also two-thirds of the whole weight of the dome, if it is steady and firmly constructed it is a more than sufficient abutment for the remaining third, which is the whole of the rest of the dome.

It is evident from an inspection of the figure, or from any section of a dome, how easy it must be to construct the first segment from the springing; and if this is very solidly built and placed on an immoveable basis, the architect may play with the rest; and he must be clumsy indeed if he cannot make it perfectly stable. In the East they did play with their domes, and made them of all sorts of fantastic forms, seeking to please the eye more than to consult the engineering necessities of the case, and it is the rarest possible contingency to find a dome that has fallen through faults in the construction.

In Europe architects have been timid and unskilled in dome-building; but with our present engineering knowledge it would be easy to construct far larger and more daring domes than even this of Mahomet's tomb, without the smallest fear of accident.

The external ordinance of this building is as beautiful as that of the interior. At each angle stands an octagonal tower eight stories high,

simple and bold in its proportions, and crowned by a dome of great elegance. The lower part of the building is plain and solid, pierced only with such openings as are requisite to admit light and air; at the height of 83 ft. a cornice projects to the extent of 12 ft. from the wall, or nearly twice as much as the boldest European architect ever attempted. Above this an open gallery gives lightness and finish to the whole, each face being further relieved by two small minarets.

The tomb of the predecessor of this king, Ibrahim II. (A.D. 1579 to 1629), though smaller, almost makes up by the beauty of its details what it wants in dimensions as compared with its great rival; it is only 116 ft. square by 114 in height. Its central apartment is only 40 ft. each way by 35 in height, and almost wholly devoid of ornament. It is surrounded externally by a double verandah, every inch of which is covered with the most elaborate carvings, either of architectural details or ornamental writing, so extensive indeed, that it is said the whole Koran is sculptured on its walls.

Both these were to have been surpassed by that of Ally Adel Shah, the last king of his race; he did not however reign long enough to raise it above the first tier of arches, and it is now only an elegant ruin.

The great mosque of the city is worthy of its tombs, being 258 ft. wide by 144 in depth, divided into five aisles, on the centre of which rises a beautiful dome, 75 ft. in diameter. Beyond this building two wings project at right angles, so that with the mosque they enclose three sides of a court-yard about 190 ft. square: the fourth side was unfinished when the city fell under the sway of Aurungzebe.

Besides these buildings there are seven palaces or *mehals* within the citadel, and one very large and remarkable one, called the Ashur Moobaruck, just outside its ditch. Within the city there are numberless residences of the nobles and attendants of the court. One called, from a whimsical legend, the Methur's or sweeper's dwelling, is, though small, as rich a specimen of elaborate Hindu workmanship as is to be found anywhere in India.

The gigantic walls of the city itself, 6¼ miles in circumference, are a work of no mean magnitude, and, standing in front of the tombs of those who built them, and among the ruins of the suburbs of this once great city, they make up a scene of grandeur in desolation equal to anything else now found even in India.[1]

The mausoleum of Hyder Ali, at Seringapatam, is one of the specimens of its class oftenest engraved, and consequently best known to the English public. It is an imposing specimen of the style in its decay; but wanting both in the grandeur and beauty of ornament which characterise those examples we have been speaking of.

In a history of Indian mausolea, however, it should not be omitted, as it is, and probably will remain, the last specimen of its class. For

[1] The woodcuts and dimensions, &c., quoted above, are taken from a splendid set of drawings of these buildings, executed under the superintendence of Captain Hart, Bombay Engineers, and now deposited in the India House. They are by far the most beautiful and correct drawings which have ever reached this country from India.

there is now in India no Moslem monarch with means sufficient to attempt an erection of this kind, and, if such an attempt were made, it probably would be adorned with Italian details in the worst possible taste, and be more an emblem of the utter degradation of the race than a monument capable of conveying to posterity an idea of their greatness or power.

Palaces.

It is true, perhaps, that in India the most characteristic form of Moslem art is that found in the tombs just described; but at the same time it must be admitted that Saracenic architecture in general is most distinctively represented by its palaces. It was for the display of luxurious splendour that the taste of the people was best suited, and it is consequently in the style displayed in their palaces that they can best lay claim to pre-eminence, if they possessed it anywhere. None of the races who have at any period embraced the religion of Mahomet were capable of such a sustained effort of religious enthusiasm as that which gave rise to the Gothic art. Neither did they ever attain that permanent durability which gives to the Egyptian monuments such an expression of eternity; nor did they at any time possess the perception of intellectual beauty which at Athens produced the Parthenon. Their characteristic was more that of elegant and luxurious refinement. Their taste led them to splendour—to gorgeous pomp and ceremonial—rather than to those higher feelings which dignify the works of Western nations. Vulgar they never were, for vulgarity is unknown in the East, while a sense of the picturesque seems an inherent quality of the Asiatic mind—qualities which, combined with an almost feminine delicacy of expression, were admirably adapted to produce an exquisite style of palatial art; but one that could never reach either to sublimity, or to the manlier and nobler, though perhaps less refined, styles of Western Europe.

Very little now remains of the palaces built by the Pathans in India. The finest, and perhaps the best of these, was that built at Agra by Sher Shah, whose tomb at Sasseram is described above. It certainly belonged to the best age; and being built to adorn the newly established capital, had probably all the art lavished upon it which that age afforded. Being the first, it had the misfortune to be placed on the highest spot within the walls of the fortress. Hence the present enlightened government of India, fancying this a good site for a barrack, pulled it down, and replaced it by a more than usually hideous brick erection of their own. This is now a storehouse, and looms in whitewashed ugliness over the marble palaces of the Moguls, a fit standard of comparison of the taste of the two races.

Judging from a fragment that remains, and the accounts received on the spot, this palace must have gone far to justify the eulogium that has more than once been passed on the works of these Pathans—that "they built like giants, and finished like goldsmiths:" the stones seem to have been of the most enormous size, and the details of most exquisite finish. It has passed away, however, like many another

noble building of its class, under the ruthless barbarism of our rule. Mosques we have generally spared, and sometimes tombs, because they were unsuited to our economic purposes, and it would not answer to offend the religious feelings of the natives. But when we deposed the kings and appropriated their revenues, there was no one to claim these now useless abodes of splendour. And as it was found cheaper either to pull them down, or use them as residences or arsenals, than to keep them up, few, very few, remain for the admiration of posterity.

At Mandoo there are some noble remains of the palace, designed with the same simple grandeur which characterises the mosque (woodcut No. 342), but built on even a more massive and gigantic scale. At Beejapore the palaces are nearly entire, though of a later age; and considerable fragments still exist of the old palaces of Jaunpore, Gaur, and the older capitals of the race. Delhi too is full of fragments; but nothing is so entire as to merit now the name of a palace, or which would enable us to restore their arrangement in anything like completeness.

The troubled reign of Humayun does not seem to have been favourable to palace-building, at least on a permanent scale, though we learn from Ferishtah that he erected a great palace containing 7 halls of audience, each dedicated to one of the 7 planets; and that he gave public audience in each of these according to the planet of the day. The building seems to have been splendid; but it may have been composed of ephemeral materials.

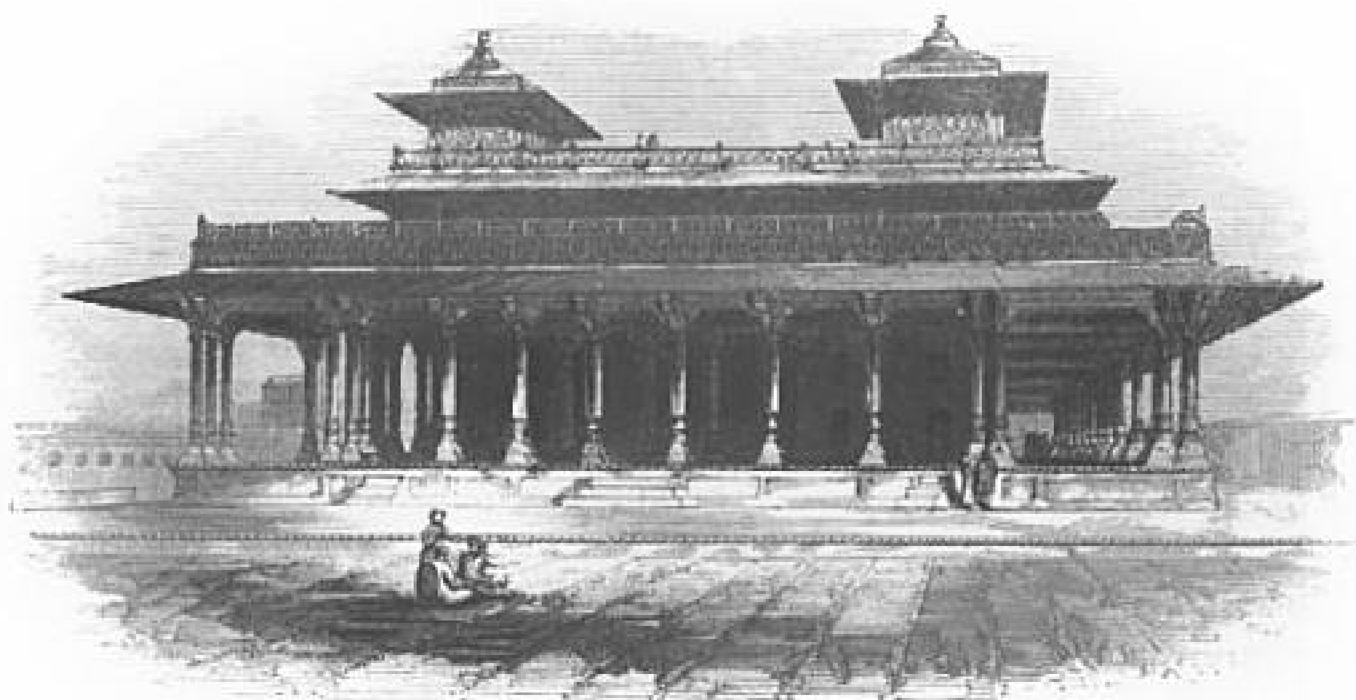
Akbar, however, was one of the greatest builders of his race, and left few of his capitals—except perhaps Delhi—without some fit monument of his greatness. His buildings are all very similar to one another in style, but very unlike those either before or after his time. They do not possess the elaborate minuteness of the Hindus, nor the giant strength of the Pathans; still less do they show the refined elegance of the works executed under Shah Jehan; but they unite all these different qualities into one style in a manner that is very remarkable, standing as it were between two ages, and combining the feelings of two religions in a way that is not only very instructive, but produces a style unrivalled by anything of its kind in any part of the world.

Akbar's favourite and principal residence was at Futtehpore Sicri, near Agra, where he built the great mosque mentioned above, and in its immediate proximity erected a palace, or rather a group of palaces, which in their way are more interesting than any other in India. No general design seems to have been followed in their erection; but pavilion after pavilion was added, and residences either for himself or for his favourite wives. These were built as the taste of the moment dictated, some in the Hindu, some in the Moslem style. The palace has no pretension to be regarded as one great architectural object; but as a picturesque group of elegant buildings it is unrivalled. All are built of the red sandstone of the hill on which the palace stands; no marble is used, and no stucco either inside or out, all the ornaments being honestly carved in relief on the stone, and the roofs as well as the floors all of the same material, and characterised by that singular

Hindu-like aversion to an arch which Akbar alone of all the Moslem monarchs seems to have adopted.[1]

His palace at Agra is merely one pavilion, or rather *corps de logis*, and cannot therefore be compared with the great palace in size; but it is singularly elegant in detail, and, having escaped the fate of so many of the palaces of India, time has only softened without destroying the beauty of its features. Internally it encloses a court 71 ft. 2 in. square, one side of which is occupied by a hall 62 ft. 8 in. by 35 ft. 3 in., of almost purely Hindu design, and almost as elaborate and elegant in detail. In the opposite side of the court is a smaller hall. The two remaining sides are occupied by two entrances with porches and halls. Beyond this an open court overlooks the river and the country on the other side of the Jumna. Like all his buildings, this is of red sandstone ornamented in relief, and generally without arches, thus forming a singular contrast to the marble halls of Shah Jehan, which adjoin it.

Allahabad was a more favourite residence of this monarch than Agra, perhaps even more than Futtehpore Sicri; but the English having appropriated the fort, its glories have been nearly obliterated. The most beautiful thing was the pavilion of the Chalees Sitoon, or 40 pillars, so called from its having that number on the principal floor, disposed in two concentric octagonal ranges, one internal of 16 pillars, the other outside of 24. Above this, supported by the inner colonnade, was an upper range of the same number of pillars crowned by a dome. This building has entirely disappeared, its materials being wanted to repair the fortifications. The great hall, however, still remains, represented in the annexed woodcut (No. 354). It is



354. Hall in Palace at Allahabad. From a drawing by Daniell.

[1] How much of this palace now remains it is impossible to say. When I was there the Government were selling the stones at 10 rupees the hundred maunds—a little less than it would cost to quarry them. I saw one of the noblest bowlees being so destroyed by the Company's servants, and its materials being carted away to build the wretched Barree of a neighbouring Zemindar. 200*l*. or 300*l*. might thus be added to a revenue of 22 millions, which, thanks to these Moguls, we are able to wring from the poorest peasantry in the world.

now the arsenal; a brick wall has been run up between its outer colonnades with windows of English architecture, and its curious pavilions and other accompaniments removed; and internally, whatever could not be conveniently cut away is carefully covered up with plaster and whitewash, and hid by stands of arms and deal fittings. Still its plan can be made out; a square hall supported by eight rows of columns, eight in each row, thus making in all sixty-four, surrounded by a deep verandah of double columns with groups of four at the angles, all surmounted by bracket capitals of the most elegant and richest design, and altogether as fine in style and as rich in ornament as anything in India.

None of the Emperors of India built less or cared less for building than Akbar's son and successor Jehangir, who has not left in India Proper one single edifice worthy either of his power or the length of his reign. The only works which he left seem to have been at Lahore, where he lies buried with his imperious queen, the celebrated Noorjehan.

Shah Jehan, however, who succeeded him in 1628, made ample amends for this neglect, having built more than any of his race except perhaps the great Akbar. It is startling to find how complete a change of style had been effected in the short interval that had intervened between these two reigns. The truth seems to be that the current of Moslem art had advanced steadily from the beginning. Under Akbar an interruption took place, attributable to the bold originality and peculiarity of taste of that great monarch. On his death the Mahometan style resumed its course, but made little progress under his feeble successor. On the accession of Shah Jehan it again flourished in all its magnificence. It was this king who built the present city of Delhi, with its great mosques and palaces, the latter being the most perfect and complete example of its style in India, having besides hitherto escaped the spoiling hand of the English, being still inhabited by the fainéant kings of the Mogul race. From this cause this palace is not so easily accessible to Europeans, and consequently not so well known, as that of Agra. Besides that, it is altogether of a somewhat later age, many of its buildings having been finished, and some added, by Aurungzebe, and tinctured by the decline of art that became apparent during his reign. The palace at Agra, though smaller and less complete, is perhaps even more interesting, being wholly of the best age. In the centre of it is a great court, 500 ft. by 370, surrounded by arcades, and approached at the opposite ends through a succession of beautiful courts opening into one another by gateways of great magnificence. On one side of this court is the great hall of the palace—the Dewannee Khas—208 ft. by 76, supported by 3 ranges of arcades of exquisite beauty. It is open on 3 sides, and with a niche for the throne at the back. This, like the hall at Allahabad, is now an arsenal, and reduced to as near a similarity as possible to those in our dockyards. Behind this are 2 smaller courts, the one containing the Dewannee Aum, or private hall of audience, the other the harem. The hall in the former is one of the most elegant of Shah Jehan's build-

ings, being wholly of white marble inlaid with precious stones, and the design of the whole being in the best style of his reign.

The greatest care, however, was lavished on the hareem court, which measures 170 ft. by 235. Three sides of this are occupied by the residences of the ladies, not remarkable for size, nor, in their present state, for architectural beauty; but the fourth, overhanging the river, is occupied by three white marble pavilions of singular elegance, though it is not easy now to see them, some English officer having pitched upon the principal one as a residence, and having in consequence covered the polished marble and elegant arabesques of flowers inlaid in precious stones with thick coatings of that whitewash which was indispensable to his idea of comfort and elegant simplicity.

As in most Moorish palaces, the baths on one side of this court were the most elegant and elaborately decorated apartments in the palace. The baths have been destroyed, but the walls and roofs still show the elegance with which they were adorned.

The palace at Delhi is similar to this, but, being built by one king on a uniform plan, it is more regular, and on the whole certainly more magnificent. Its principal entrance faces the Chandnee Chouk, a splendid wide street, nearly a mile long, planted with two rows of trees, and with a canal of water flowing down its centre. Entering within the deeply-recessed portal you find yourself beneath the roof of a vaulted hall, similar in plan to a Gothic cathedral, many of which it exceeds in dimensions. In the centre it is crossed by another hall at right angles leading to the lateral courts, and at the upper end is the great court of the palace, rather larger than the one above described as existing at Agra. The whole forms perhaps the most noble entrance to a palace now known to exist anywhere. Opposite to this great entrance is the Dewannee Aum, or principal hall, a finer and larger one than that at Agra, and not yet turned into an arsenal; and in the centre of this, directly facing the entrance, is a niche richly ornamented, where on a platform of marble inlaid with precious stones once stood the famous peacock throne.

To the left of this great court is a smaller one, containing the private hall of audience, which is larger and richer than that at Agra, though not so elegant. It is round the frieze of this hall that the famous inscription runs, "If there is a heaven on earth, it is this, it is this"—which may be safely rendered into the sober English assertion that no palace now existing in the world possesses an apartment of such singular beauty and elegance.[1]

To the left of this again are the gardens, laid out in the formal style of the East, and the little golden mosque, an elaborate and beautiful piece of art, but far too small for such a palace, and very inferior to the Mootee Musjid at Agra. On the other side is the hareem court, to which no European is admitted; but if it bears the same relation to the rest as that at Agra, it must be the most splendid part of the whole.

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[1] The throne here is a single block of rock crystal of exceeding elegance and beauty.

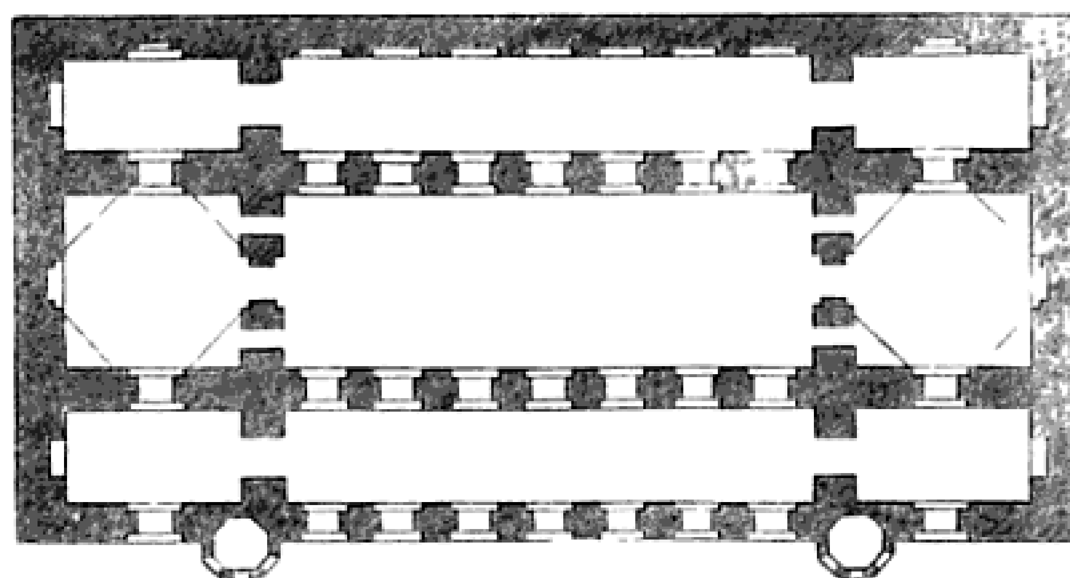
Along the river-front, as at Agra, are a number of marble pavilions, generally octagons, crowned with gilded domes, some of them of great beauty, but none, as far as can be seen, equal to that between the two inner courts at Agra. Of all Shah Jehan's buildings that is the most elaborate and the most highly ornamented, though perhaps for this very reason not the most to be admired; for though it is impossible to resist the fascination of so much ornament, all of the best kind and the richest materials, the forms and arrangements of the parts do not come up to the beauty of those buildings by which it is immediately surrounded.

We have scarcely any remains of Aurungzebe's own works, except, as before observed, a few additions to the palace at Delhi; but during his reign many splendid palaces were erected, both in the capital and elsewhere. The most extensive and splendid of these was that built by his aspiring but unfortunate son Dara Shekoh. It, however, was converted into the English residency; and so completely have plaster, whitewash, and improvements done their work, that it requires some ingenuity to find out that it was not wholly the work of the Anglo-Saxons.

In the town of Delhi many palaces of the age of Aurungzebe have escaped this profanation, but generally they are either in ruins or used as shops; and, though splendid, they show too clearly that degradation of style which had then fairly set in, and which is still more apparent in the modern capitals of Oude, Hydrabad, and other cities which have risen into importance during the last hundred years, than even here.

Even these capitals, however, are not without edifices of a palatial class which from their size and the picturesqueness of their forms deserve attention, and to an eye educated among the plaster glories of the Alhambra would seem objects of no small interest and beauty. Few, however, are built of either marble or squared stone; most of them are of brick or rubble-stone, and the ornaments in stucco, which, coupled with the inferiority of design, will not admit of their being admired in such immediate proximity with the glories of Agra and Delhi.

At Lucknow there is one hall that deserves to be treated as an



355. Plan of Imambara at Lucknow. From a plan by the Author. Scale 100 ft. to 1 in.

exception, not only from its size, but from the simplicity of its form and general grandeur of design. It is the Imambara or hall of the college. As seen by the plan (woodcut No. 355), the principal apartment is 162 ft. long by 53 ft. 6 in. wide. On the two sides are verandahs respectively 26 ft. 6 in. and 27 ft. 3 in. wide, and at each end an octagonal apartment, 53 ft. in diameter, the whole interior dimensions being thus 263 ft. by 145. This immense building is covered with vaults of very simple form and still simpler construction, being of a rubble or coarse concrete several feet in thickness, which is laid on a rude mould or *centering* of bricks and mud, and allowed to stand a year or two to dry and set. The centering is then removed, and the vault, being in one piece, stands without abutment or thrust, apparently a better and more durable form of roof than our most scientific Gothic vaulting; certainly far cheaper and far more easily made, as it is literally cast on a mud-form, which may be moulded into any shape the fancy of the architect may dictate.

CHAPTER V.

SPAIN.

CONTENTS.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
Moors invade Spain	A.D. 711	Alcazar and Giralda at Seville (about)	A.D. 1200
Abd el Rahman commences mosque at Cordoba	786	Mohammed ben Alhamar commences Alhambra	1248
El Mansour enlarges mosque at Cordoba	876	Abon abd Allah, builder of Court of Lions, begins to reign	1325
Caliph Hakeem rebuilds sanctuary at Cordoba	965	Christian conquest of Granada	1492

THE next form of Saracenic art that now remains to be illustrated is that developed in Spain during the 8 centuries in which the Moors possessed or held a footing in that country, which they ennobled by their chivalry and adorned by their enlightened cultivation of the arts and sciences. As a style it is inferior to those we have been examining—never having reached the purity of form and elegance of detail attained in Egypt, nor that perfection in colouring which characterises the style of Persia, while it is certainly inferior both in elegance and richness to that of India. Still it is to us perhaps the most interesting of the whole, not only because of its proximity to our own shores, and our consequent greater familiarity with it, but because history, poetry, and painting have all combined to heighten its merits and fix its forms on our minds. Few are unacquainted with the brilliant daring of a handful of adventurers who in the 8th century subjugated Spain and nearly conquered Europe, and fewer still have listened without emotion to the sad tale of their expulsion. Much of the poetry and romance of the middle ages owes its existence to the struggles between the Christian and the Paynim knights; and in modern times travellers, painters, and architects have all lingered and expatiated on the beauties of the Alhambra, or dwelt in extasies on the mysterious magnificence of the mosque at Cordoba. Indeed no greater compliment could be paid to this style than that conveyed by the fact that, while not one work of any importance has been devoted to the Christian antiquities of Spain, even England has produced two such splendid illustrations of the Alhambra as those of

Murphy and Owen Jones—works far more magnificent than any devoted to our own national arts. In France, too, Girault de Prangey, Le Normand, Chapuy, and others have devoted themselves to the task; and even in Spain the Antigüedades Arabes en España is the best production of the class. So that we really are familiar with what these strangers did; while the cathedrals of Seville, Toledo, Burgos, and Leon are unmeasured and undrawn; and travellers hurrying to the Alhambra scarce condescend to alight from the diligence to cast a passing glance at their beauties.

This is indeed hardly fair; still it must be confessed it is impossible to come in contact with the brilliant productions of the fervid imagination of a Southern people without being captivated with their beauty, and there is a fascination in that exuberance of ornament and brilliancy of colour which it is impossible to resist when these are used with the daring which characterises their employment here. It is also true that these Moorish architects avoid the vulgarity which would inevitably result from such exuberance in the hands of Northern artists—a defect which the more delicately organised Asiatic as invariably escaped.

Cordoba.

As far as the history of architecture is concerned, by far the most interesting building in Spain is the mosque of Cordoba; it was the first important building commenced by the Moors, and was enlarged and ornamented by successive rulers, so that it contains specimens of all the styles current in Spain from the earliest times till the building of the Alhambra, which was in the latest age of Moorish art.

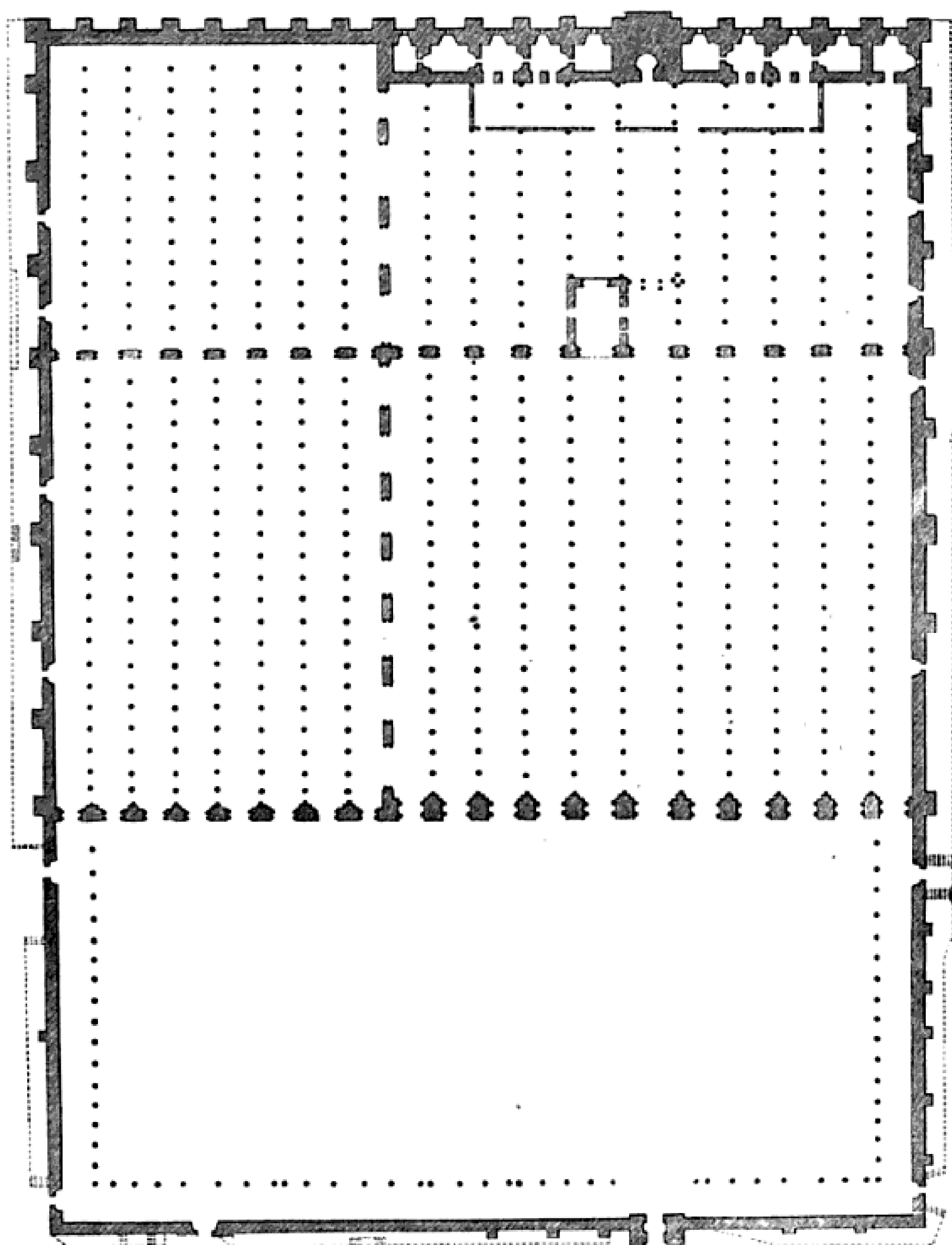
This celebrated mosque was commenced by Caliph Abd el Rahman in the year 786, and completed by his son Haschem, who died 796. The part built by them was the 11 western aisles, which then formed an edifice complete in itself, not unlike the Aksah at Jerusalem (except in the number of aisles), which the Caliph is said to have been anxious to surpass. It is by no means clear whether it had originally a court in front, but it is certain that the present court owes its existence to another Caliph of the same name in the year 957. As, however, the Christian basilicas of this age had almost always courts in front, it is more than probable that this mosque had one also; for the Mahometan mosques erected in countries previously Christian borrow much of their arrangement from these edifices.

The 8 eastern aisles were added by El Mansour (976—1001), thus completing the mosque to a parallelogram of 420 ft. by 375;[1] it covers therefore 157,500 square feet, being a larger superficies than that covered by any Christian church except St. Peter's at Rome. It is, however, sadly deficient in height, being only about 30 ft. high to

[1] Notwithstanding the number of plans published of this edifice, it is extremely difficult to ascertain its exact dimensions. Murphy in his text makes them 620 × 440, whereas the scale of his plans shows 570 × 405. Le Normand's two plans differ considerably from one another. The above is about the mean.

the roofs, and also wants subordination of parts, all the aisles being nearly of the same width, about 22 ft., except the central one of the original 11, which is 5 ft. wider; the 33 transverse aisles are all similar in breadth; so that altogether it is as deficient in design as the hall of a thousand columns of a Hindu temple, and produces pretty nearly the same effect.

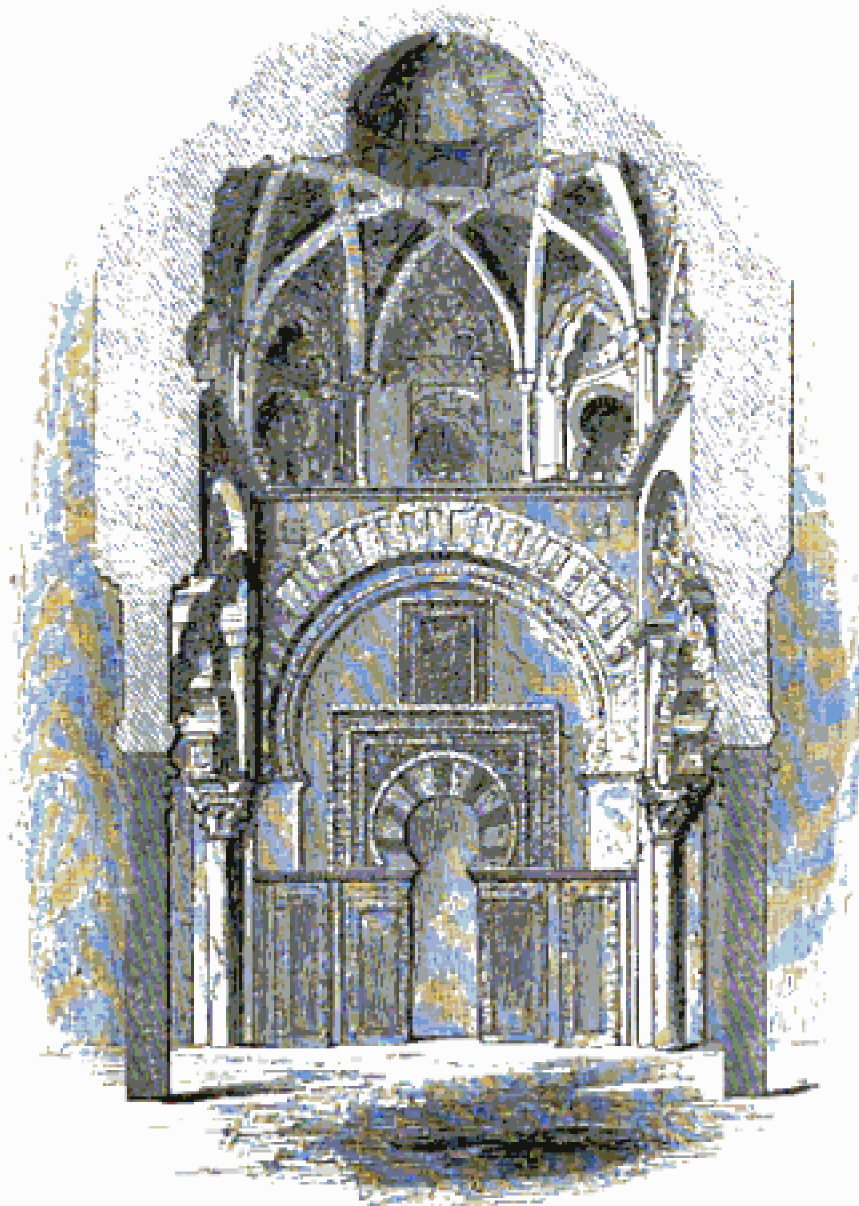
So completely has the building been altered by various repairs and the intrusion of a modern cathedral into its centre, that it is diffi-



356. Mosque at Cordoba. From a plan by G. Le Normand. Scale 100 ft. to 1 in.

cult to understand many of the original arrangements, especially how it was lighted—the few doors towards the court and on the sides would not suffice for this, and there is no appearance of a clerestory in the centre. The original roof, however, which was of wood richly carved and painted, has been removed, and brick vaults substituted. My own impression is that the upper part of the side-walls was originally an open arcade or colonnade on the two sides at least, which is confirmed by the fact that the side-aisles are narrower than the others exactly by the thickness of the walls; so that, if the walls were low, with columns standing on the outer edge, the width of these aisles would be uniform with the rest.

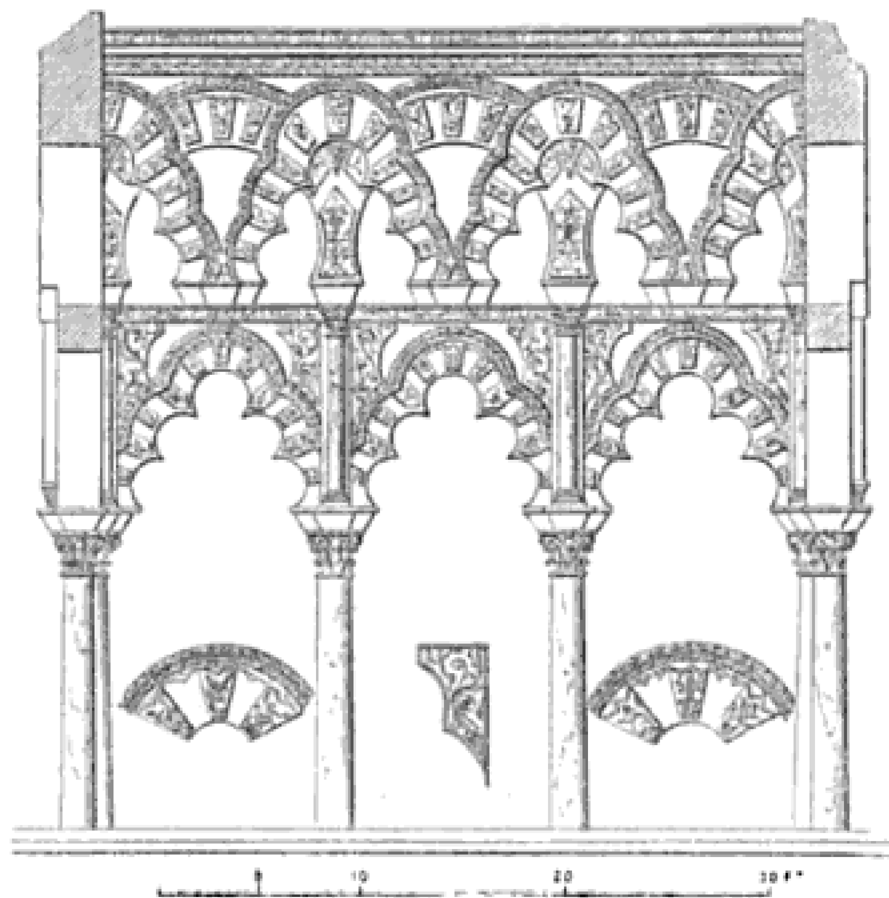
The Sanctuary with its appurtenances was rebuilt by the Caliph Hakeem, A.D. 965, and is the most beautiful and elaborate specimen of Moorish architecture in Spain and of the best age. In the great body of the mosque the architects employed columns brought from the ruined Roman cities of Merida and that neighbourhood, probably those supporting the porticos of the Forum and streets, or the courts of private houses. These being small and low, they were obliged to employ the expedient of placing arch over arch to eke out their height—to invent in short for the nonce that strange style which gives so peculiar a character to this building. Before the age of El Hakeem, however, the style had time to perfect itself; it was no longer dependent either on the materials or the forms of Roman art. They obtained also at this time the assistance of workmen from Byzantium, with which court the Caliphs of Spain were closely allied; and with their own exquisite taste they made the façade and niches of this part of the building the most elaborate and beautiful specimens of the art in Spain, and which, but for the smallness of the scale and confined nature of the design, might rival anything else found anywhere.



357. Interior of Sanctuary at Cordoba. From a drawing by Girault de Prangey.

The flowing and graceful forms of the design here exhibited are infinitely preferable to the interlacing straight lines of the Alhambra,

and the materials, which are in this place white and coloured marbles and true mosaic work, are very much to be preferred to the painted plaster of the other and more celebrated edifice.



358. Screen of the Chapel of Villa Viciosa, Mosque of Cordoba.

The third age of Moorish art is represented in this building by the chapel of Villa Viciosa, built apparently about the year 1200. It is evidently one of those raised platforms so common in Indian, and indeed in all royal mosques, where the king in his grandeur could pray uncontaminated by mixing with the vulgar crowd. Though a good deal altered and deranged by being converted into a Christian chapel, it still shows, in the age of its greatest purity, the germ of that style which afterwards was elaborated at Granada, and is generally considered as the type of the style in this country.

Before leaving this mosque it may be as well to remark that nowhere in any of these styles does the pointed arch appear, or only so timidly as to be quite the exception, not the rule. At an age when its employment was universal in the East, it is singular to observe how completely the Saracenic architects followed the traditions of the country in which they found themselves. At Cordoba they never threw off the influence of the Roman arch, though farther north the pointed arch is by no means uncommon.

Contemporary with the rebuilding of the sanctuary of the mosque was the erection of the great palace in the city of Zahra near Cordoba, which, if we may trust the accounts that have been handed down to us, was by far the most wonderful work of the Moors in Spain. This indeed might be expected, for, as has been before remarked, the palaces were the principal buildings of this people, and this being of the very best age might naturally be expected to excel any other edifice of theirs.

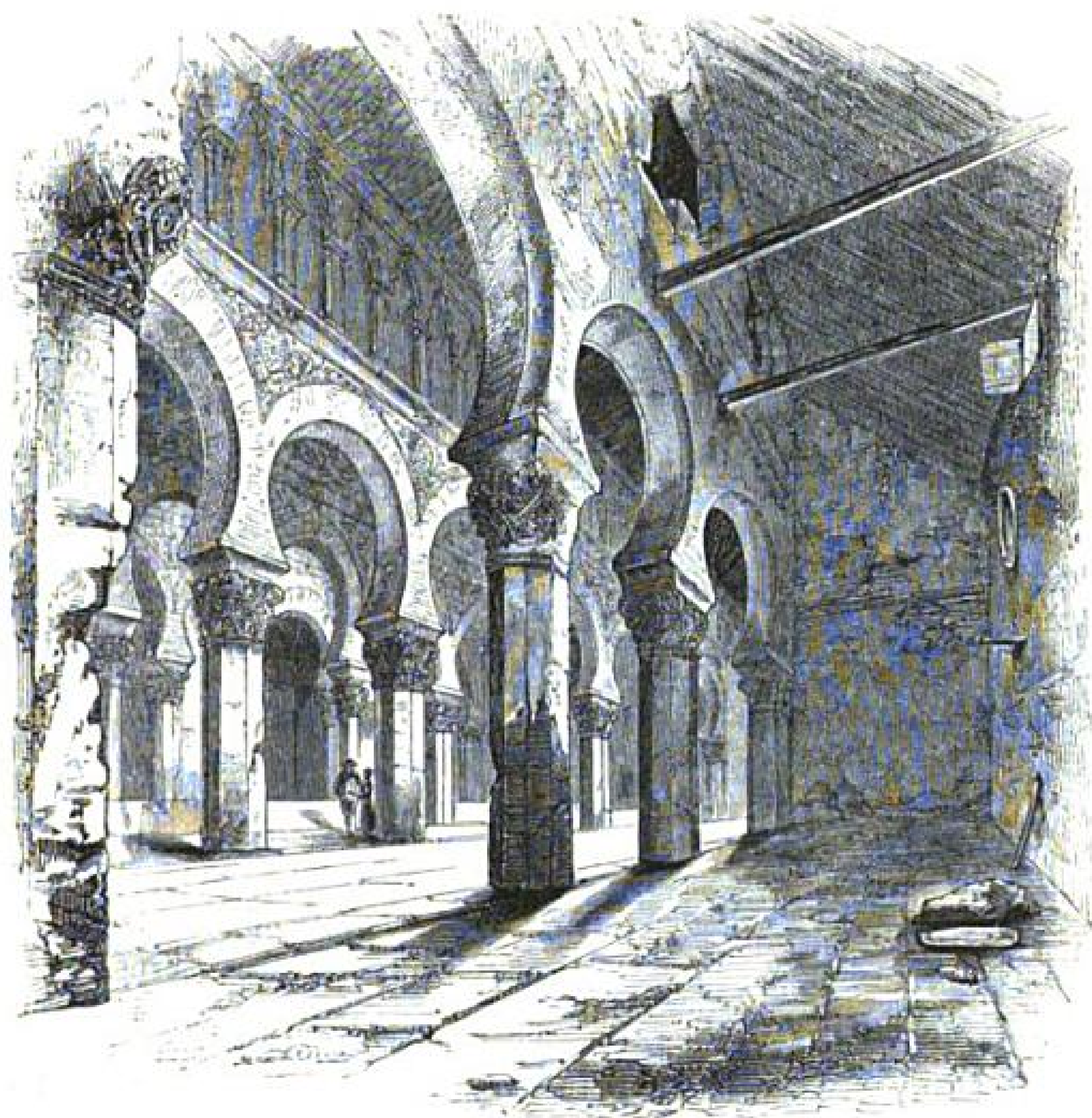
Not one stone now remains to mark even the spot where it stood. Its destruction commenced shortly after its completion in the troubles of the 11th century, even before the city fell into the hands of the Christians, and we depend therefore wholly on the Arabian historians from whom Conde and Murphy compiled their accounts; but as they, with Maccary, describe the mosque in the same page with the palace, and do not exaggerate nor say one word too much in praise of

the former, we cannot refuse credence to their description of the latter.

According to these authors the enclosing wall of the palace was 4000 ft. in length E. and W., and 2200 ft. N. and S. The greater part of this space was occupied by gardens, but these, with their marble fountains, kiosks, and ornaments of various kinds, must have surpassed in beauty, and perhaps even in cost, the more stricfly architectural part of the building. 4300 columns of the most precious marbles supported the roofs of the halls; 1013 of these were brought from Africa, 19 from Rome, 140 were presented by the Emperor of Constantinople to Abd el Rahman, the princely founder of this sumptuous edifice. All the halls were paved with marbles in a thousand varied patterns. The walls too were of the same precious material, and ornamented with friezes of the most brilliant colours. The roofs, constructed of cedar, were ornamented with gilding on an azure ground, with damasked work and interlacing designs. All, in short, that the unbounded wealth of the caliphs at that period could command was lavished on this favourite retreat, and all that the art of Constantinople and Bagdad could contribute to aid the taste and power of execution of the Spanish Arabs was enlisted to make it the most perfect work of its age. Did this palace of Zahra now remain to us, we could afford to despise the Alhambra and all the works of that declining age of Moorish art.

Among other buildings contained within the great enclosure of the palace was a mosque. This had five aisles, the central one wider than the others. The total length from the Kiblah, or niche facing Mecca, to the opposite wall was 97 cubits (146 ft.), the breadth from E. to W. 49 cubits (74 ft.). It was finished in the year 941, and seems to have been one of the last works in the palace, having been commenced in 936. From this description it is clear that it was virtually a five-aisled church, and as no mention is made of the court we may fancy that, like the seven-aisled Aksah at Jerusalem, it never had that accompaniment, but was in reality only a basilica extended laterally, but on a small scale.

We may perhaps form some idea of what its original appearance was from the examination of what is now the church of Sta. Maria la Blanca at Toledo (woodcut, No. 359). Although this example is probably at least a century more modern, and, instead of marble columns and regal richness of decoration, is only of brick and stucco, still it is a five-aisled building, apparently twice the length of its breadth, and with a central aisle higher than the others. Altogether it is a favourable specimen of the Moorish style in Spain before it became degraded. Light was probably originally admitted by the clerestory, now blocked up; but it is not easy to be quite certain of this without a more careful examination than the building has yet been subjected to. Tradition says that it was originally a synagogue of the Jews. This is neither improbable nor of much importance, for the Jews were a numerous and powerful race during the Moorish domination, living in amity and peace with the Mahometans, and exercising the same arts in very nearly the same forms.

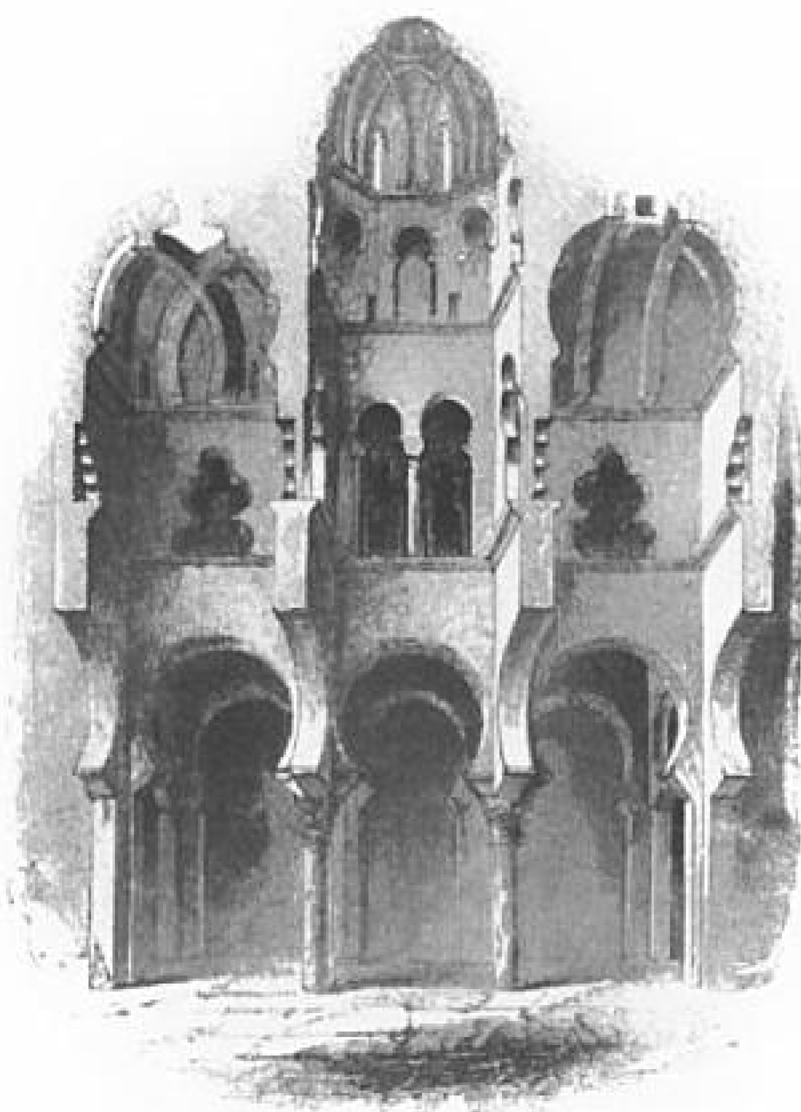


359. Sta. Maria la Blanca. From Villa Amil.

Another very interesting specimen of a Moorish mosque in Spain is that at Toledo, now known as the church of Christo de la Luz. It is a small square building with 4 stout short pillars on the floor, dividing it into 9 equal compartments, the central one of which is carried up higher than the others, and terminated by a sort of dome, if dome it can be called, for the Spanish architects, working almost wholly from Roman models, never adopted the Byzantine dome to any extent, except perhaps as the roofs of baths. In their mosques and palaces it is only used as an ornamental detail, and never constructed either of stone or brick-work, but merely a carpentry framing covered with stucco or mastic. The Spanish style shows in this a most essential difference from the Eastern forms, where the domes are so splendid and durably constructed, and where they constitute the actual roofs of the buildings.

Indeed vaulting does not seem under any circumstances to have been an art to which the Spanish Arabs ever paid any attention. Almost all their roofs are of wood carved and painted, or of stucco, not used to imitate stone, but as a legitimate mode of ceiling, which

it certainly is, and for fanciful and gorgeous decorations perhaps preferable to more durable, but less manageable materials.



360. Church of St. Christo de la Luz, Toledo. From a drawing by Girault de Prangey.

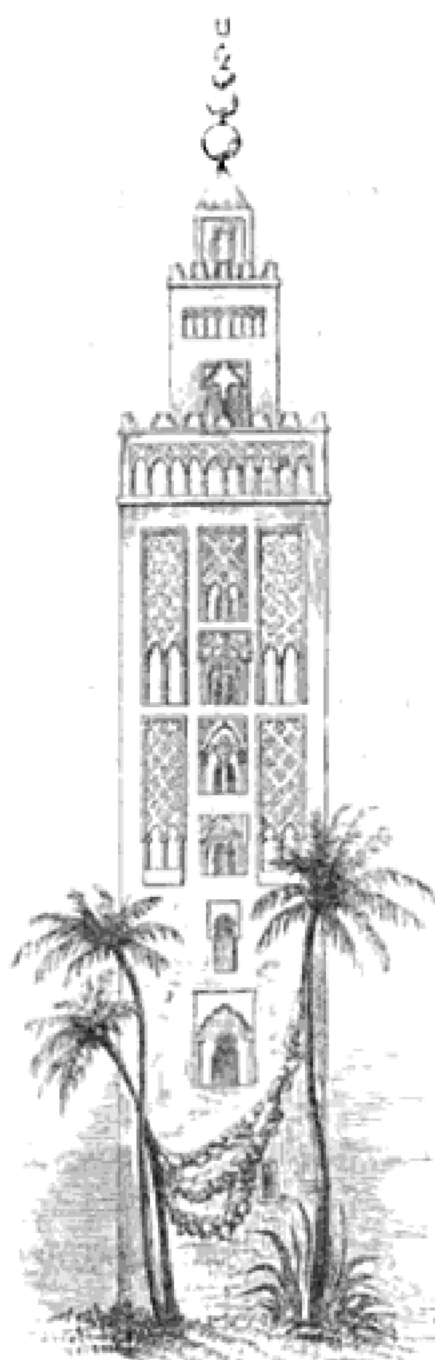
The art resulting from such materials is, it is true, more ephemeral, and must take a lower grade than that built up of materials that should last for ever; but such was not the aim of the gay and brilliant Moors, and we must judge them by their own standard, and by their success in attaining the object they aimed at.

In San Christo the walls are sufficiently solid and plain, and on the whole the forms and decorations are judiciously and skilfully applied to attain the requisite height without raising the columns or giving any appearance of forced contrivances for that purpose. In this respect it shows a considerable advance on the design of the older part of the great mosque at Cordoba, being probably at least a century more modern; but it does not show that completeness which the art attained in the 10th century, when the sanctuary at Cordoba was built.

These four buildings mark four very distinct stages in the history of the art—the early mosque at Cordoba being the first, the San Christo de la Luz the second; the third and most perfect is well represented by all the building at the southern end of the mosque at Cordoba; the fourth by Sta. Maria la Blanca, where all trace of Roman and Byzantine art has wholly disappeared: a fifth stage is represented by another synagogue at Toledo called El Transitu. This last is so essentially merely a gorgeously ornamented room that it hardly deserves to be classed among monumental buildings, besides which this stage is so well illustrated in the palaces of Seville and Granada that it is not necessary to dwell on minor examples. Had the great mosques of Seville, Toledo, or Granada been spared to us, it would perhaps have been easier and better to restrict our illustrations to sacred edifices alone; but they—at least certainly the two first named—have wholly disappeared to make way for the splendid cathedrals which stand where they once stood, and which have obliterated nearly every trace of their previous existence. In the northern cities the national pride and stern bigotry of the Spaniards have long ago effaced all traces of this religion.

GIRALDA, SEVILLE.

None of the mosques we have been describing possess minarets, nor is there anything in Spain to replace the aspiring forms of the East except the Giralda at Seville. This is a more massive tower than is, I believe, to be found anywhere else as the work of a Moslem architect. At the base it is a square of about 45 ft., and rises without diminution to the height of 185 ft. from the ground; to this a belfry was added in 1568 by Ferdinand Riaz, adding 90 ft. to its height; and unfortunately we have nothing to enable us to restore with certainty the Saracenic termination which must have been displaced to make room for this. In the annexed woodcut (No. 361) it is represented as restored by Girault de Prangey, and from a comparison of it with the towers of Fez and Morocco, erected by the same king, it is more than probable it was thus terminated originally. It is difficult nevertheless to reconcile oneself to the idea that the upper part was not something more beautiful and more in accordance with its base. In the East the Mahometan architects certainly would have done something better; but here, from the want of familiarity with tower-architecture, and from their not possessing any circular or domical forms for the termination of towers or sky-lines, this inartistic form may probably have been adopted. The lower part is certainly much more beautiful; the walls are relieved with panels to just such an extent as is required for ornament without interfering with the construction or apparent solidity of the tower, and the windows are graceful and appropriate, and in such number as seems required. In this respect it contrasts pleasingly with the contemporary Campanile at Venice, which, though very nearly of the same dimensions, is lean and bald compared with this tower at Seville. So indeed are most of the Italian towers of the same age. All these towers seem to have been erected for very analogous purposes, for the Giralda can never have been meant as the minaret of a mosque, to be used for the call to prayer; nor can we admit the destination sometimes ascribed to it by those who surmise that it may have been merely meant for an observatory. Most probably it was a pillar of victory, or a tower symbolical of dominion and power, like so many others we have had occasion to allude to in the previous pages of this work. Indeed the tradition is that it was built by the King Yousouf to celebrate his



361. Giralda, Seville. From a drawing by Girault de Prangey.

famous victory of Alarcos, gained in the year 1195, in which year the building of the tower was commenced. As such it is superior to most of those erected in Europe in the middle ages, but far inferior, except in size, to the Kootub Minar, and many others still found in various parts of Asia.

Alcazar at Seville.

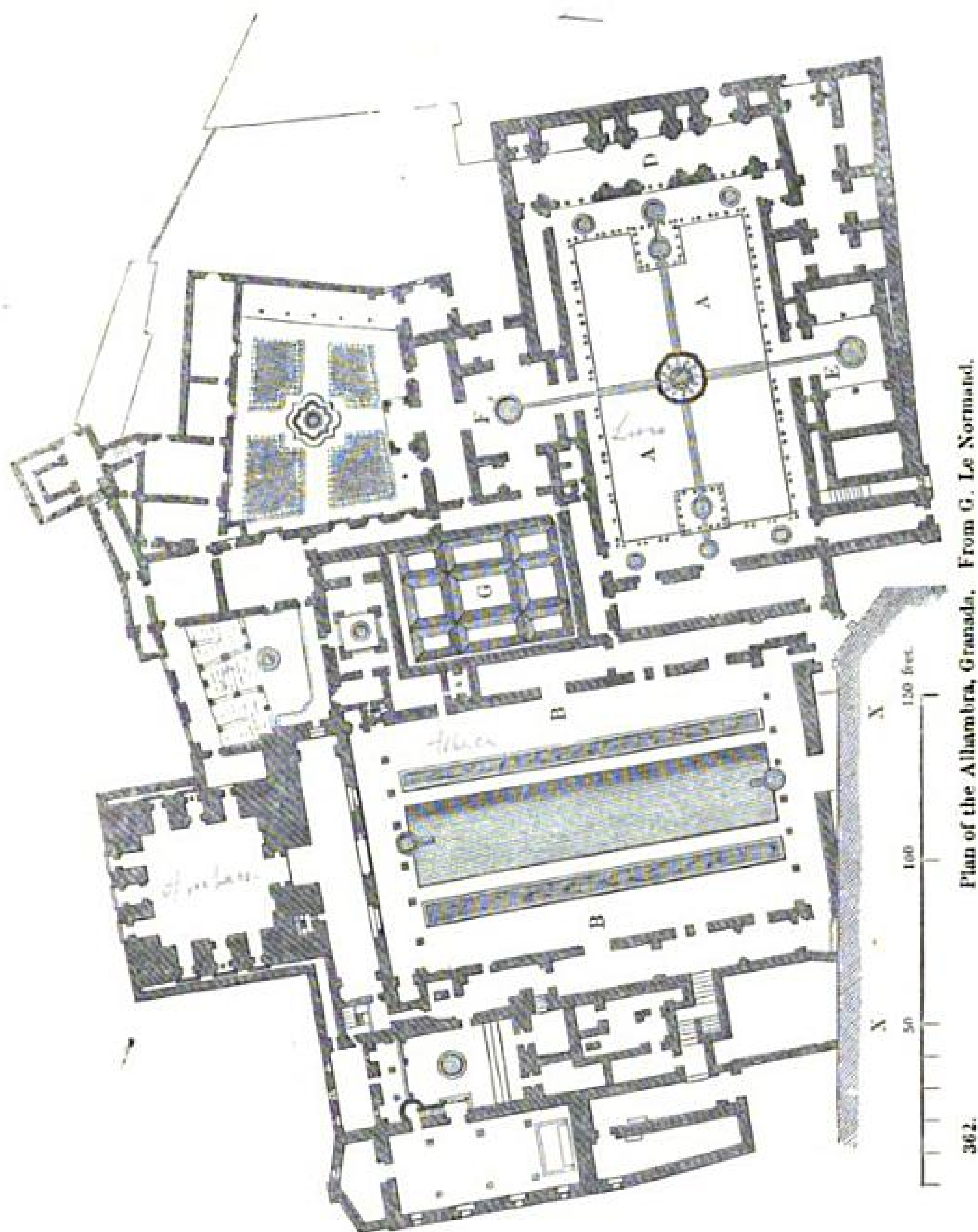
The Alcazar at Seville was an older palace, and perhaps also at one time a more magnificent one, than the Alhambra itself. Hence it would be a most interesting example of the Mahometan style, were it not that it has been much dilapidated in subsequent ages, and its character destroyed by alterations and so-called improvements after it fell into the hands of the Christians. It is more than probable that the best parts of it belong to the same age as the Giralda—the end of the 12th and beginning of the 13th century—and that it continued to receive additions till the city was taken by the Christians, A.D. 1248. A careful examination of the building by some one intimate with all the peculiarities of the style might distinguish the ancient parts from the Christian additions, especially those perpetrated by Don Pedro the Cruel (1353 to 1364), who in an inscription on the walls claims the merit of having rebuilt it. Thus the history of this palace is not of much importance, as it is not so much older than the Alhambra as to mark another style, nor so complete as to enable us to judge of the effect of the art as perfectly as we can in that celebrated palace.

Alhambra.

It was after his expulsion from Seville (1248) that Mahomed ben Alhamar commenced the present citadel of the Alhambra, at which both he and his successors worked continually till the end of the 13th century. It does not appear that any of the more important buildings now found there were erected by these monarchs. From the accession of Aboul Walid (1309) to the death of Yousouf (1354) the works of the present palace seem to have been carried on uninterruptedly, and it is to this half-century that we must refer all the essential parts of the palace we now find in the citadel.

As will be seen from the annexed plan it consists principally of two oblong courts; the richest and most beautiful, that of the Lions (A A), running east and west, was built by Abou abd Allah (1325 to 1333). The other, the court of the Alberca (B B), at right angles to this, is plainer and probably earlier. Restorers generally add a third court, corresponding with that of the Lions, which they say was removed to allow of the erection of the palace of Charles V. (X X), which now protrudes its formal mass most unpleasingly among the light and airy constructions of the Moors. My own impression is that, if anything did exist here, it was the mosque, which we miss, although we know that it existed, and tradition points to this side as its locality, though it certainly was not the apartment at that angle which now goes by that name. It must, like all Spanish mosques, have faced the south, and was most probably destroyed by the first Christian con-

querors of Granada. Indeed it is by no means certain that the Christian palace above mentioned, which stands strangely unsymmetrically with



362. Plan of the Alhambra, Granada. From G. Le Normand.

the other buildings, does not follow the lines of the old mosque. This could be in great measure determined if we could rely upon the bearings of the different courts and buildings as given in the compasses attached to any of the plans hitherto published.

The principal entrance to the Alhambra seems always to have been at the southern end of the court of the Alberca. This part does seem to have been altered or pulled down to make way for the palace of Charles V. The court was originally called, apparently from the pool of water which always occupied its centre, El Birket. It is 138 ft. long by 74 wide, the longer sides being singularly, and in such a place ungracefully, plain. The end to the south terminates

in a double arcade of very beautiful design; and to the north with a similar one, but only one story in height, crowned by the tower enclosing the great hall of the ambassadors (c), which is the great object to which this court extends. This is a hall 35 ft. square, and about 60 in height, roofed by a polygonal dome of great beauty of design, and covered, like the walls, with arabesque patterns of the greatest beauty. One of its most charming peculiarities, however, is the deeply-recessed windows, looking down on the city, and beyond that commanding a view of the delicious Vega and the mountains that bound it. It is one of the most beautiful scenes in the world, of which the architect availed himself with the eye of a true artist, who knew how to combine nature with art to make a perfect whole.

The other court, called that of the Lions (A A), from the beautiful fountain supported by 12 conventional-looking animals so called, is smaller (115 ft. by 66 from wall to wall), but far more beautiful and elaborate than the other; indeed, with the apartments that surround it, this is the gem of Arabian art in Spain—its most beautiful and most perfect example. It has, however, two defects which take it entirely out of the range of monumental art: the first is its size, which is barely that of a modern parish church, and smaller than many ball-rooms; the second is its materials, which is only wood covered with stucco. In this respect the Alhambra forms a perfect contrast to such a building as the Hall at Karnac, or any of the greater monumental edifices of the ancient world, and, judged by the same standard, would be found lamentably deficient. But in fact there is no comparison applicable between objects so totally different. Each is a true representative of the feeling and character of the people by which it was raised. The Saracenic plaster hall would be totally out of place and contemptible beside the great temple-palace of Thebes. No less would the granite works of Egypt be considered monuments of ill-directed labour if placed in the palaces of the gay and luxurious Arab fatalist, to whom the present was everything, and with whom the enjoyment of the passing hour was all in all.

The shafts of the pillars that surround the Court of Lions are far from being graceful in themselves, being more like the cast-iron supports of our shops than anything else. Their capitals, however, are very gracefully moulded, and of a form admirably adapted for the support of the superstructure they were destined to bear, and the pillars themselves are so gracefully grouped, alternately single and coupled, and their alignment is so completely broken by the projecting portico at each end, that they cease to be prominent objects in themselves, and become mere accessory details. The arcades which they support are moulded in stucco with a richness and beauty of ornament that is unrivalled. There is in this no offence to good taste; indeed work executed in plaster *ought* to be richly decorated, otherwise it is an unsuccessful attempt to imitate the simplicity and power that belongs to more durable and more solid materials. It should therefore always be covered with ornaments, and never was so elaborated with more taste and consistence than is found here.

At the upper end of this court is an oblong hall, called that of Judgment (D), and on either side two smaller rooms, that of the Abencerrages (E) on the south, and that called "of the Two Sisters" (F) opposite, the latter being the most varied and elegant apartment of the whole palace. The walls of all these are ornamented with geometric and flowing patterns of very great beauty and richness, and applied with unexceptionable taste for such a decoration; but it is on the roofs and larger arcades that the fatal facility of plaster becomes more apparent. Instead of the simple curves of the dome, the roofs are made up of honeycombed or stalactite patterns, which look more like natural rock-work than the forms of an art, which should be always more or less formal and comprehensible at a glance, at least in their greater lines and divisions. There is perhaps no instance where a Saracenic architect has so nearly approached the limits of good taste as here, and it requires all the countervailing elements of situation and comparison with other objects to redeem it from the charge of having exceeded them.

Behind the Hall of the Two Sisters, and on a lower level, are situated the baths (G) of the palace—beautiful in some respects, and appropriately adorned, but scarcely worthy, I cannot help thinking, of such a palace as this.

Besides the edifices mentioned above, there is scarcely a town in Spain that once was occupied by the Moors that does not still retain some traces of the art of this people. These traces, however, are generally found in the remains of baths, which from their nature were more solidly built than their other edifices, and generally were vaulted with bricks—frequently with octagonal domes supported on 12 pillars, as those in the East. These in consequence have survived, while their frailer palaces have yielded to the influence of time, and their mosques have disappeared before the ruthless bigotry of their successors. None of these seem to be of sufficient importance to require notice.

We miss entirely in Spain the tombs which in the last chapter formed so important a feature. This total absence of monuments of this class is a certain indication that there was no mixture of Tartar blood in the veins of the Moors who conquered and held Spain. This same peculiarity imparts to the whole style of Saracenic art in Spain its distinctive character. But for this the style would have been more solid and monumental. Domes would have been more in favour, and, in short, the Spanish Moors would have left behind them remains more nearly corresponding to those of the other Mahometan countries which have already been noticed.[1]

[1] Nothing need be said here of La Cuba and La Ziza, and other buildings in Sicily, which, though usually ascribed to the Moors, have now been ascertained to have been built by the Normans after their conquest of the island in the 11th century. They are Moorish in style, it is true, and were probably erected by Moorish artists, but so were many churches and chapels in Spain which we shall have occasion to mention in a future part of the work; and I am not aware of any building now extant there which can be safely ascribed to the time when the island was held by the Moslems, and which was then erected by them for their own purposes. Till such is ascertained Sicily of course does not come within the part of our subject which we are now considering.

CHAPTER VI.

TURKEY.

CONTENTS.

Peculiarities of style — Mosque of Soliman — Mosque of Achmet — Other mosques.

CHRONOLOGICAL MEMORANDA.

	DATES.		DATES.
Turkish conquest of Constantinople . .	A.D. 1453	Soliman the Magnificent	A.D. 1530
Bajazet begins to reign	1481	Achmet	1603

At the very time when the Moors were being expelled from Spain, and the arts which they had introduced into Europe, and the sciences which they had cultivated, were perishing under the intolerant bigotry of those who dispossessed them of their fair realm, a new and nobler province was by the conquest of Constantinople being added to those already occupied by the followers of Mahomet. Thus what was lost in the West was more than compensated by the gain in the East; and at an earlier age, or by another people, the gain to the cause of the Mahometans might have been incalculably great. It was, however, at a time when Christian Europe was awakening from the long slumber of the dark ages, and was sufficiently organised to resist the encroachment of a foreign invader. It is more to the purpose of our present subject to observe that at that period the art of Christian Europe was past its zenith. Its decay had been very rapid, and was felt even in the remote corner of Europe which the Turks had seized. Hence the materials which they had to work upon in producing their new style were of a very debased description. Even without this, it is by no means clear that the Turks would ever have done much good in the way of art. Of all the people who embraced the faith of Islam, they certainly were, and are, the most stolid and least refined, and the least capable consequently of elaborating such an art as we find in all other countries subject to this faith.

Had Constantinople fallen at an earlier age into the hands of the Arabs or Persians, the models of architecture and the treasures of art it contained would have been turned to far better account than they have been; but even as it is, the Turks have erected mosques and buildings well worthy of far more attention than they have hitherto received.

One of the most remarkable circumstances connected with their

style is, that we find here exactly the same phenomena in the 16th century that we remarked in the 7th and 8th. At both these eras the Mahometans adopted and suited to their purposes the styles of the countries in which they located themselves. This was not by any means a necessity imposed upon the Turks by the absence of any Saracenic style which they might have imitated. In that very part of the world such a style, complete in all its parts, and having acquired a perfect individuality of expression, had existed for six or seven centuries, and the very Turks themselves had for at least two centuries in Asia Minor been building mosques with light piers and pointed arches supporting airy domes with coloured walls and gilded roofs. All this they forgot and abandoned the moment they established themselves in Europe. If a pointed arch is there found, it is an accident; colour is rarely used, externally at least; the plan and form of their mosques are entirely new to them; and a new style springs up, differing in almost every important characteristic from anything ever practised by a Mahometan people before. They do not even seem to have employed the Greek architects of that day. Had they done so, their mosques would have had the tall cupolas and light arcades of the Theotocos and more modern Greek churches; but it was not this that they copied; they went direct to Sta. Sophia, the greatest and most important model of the style, though one which the Greeks themselves had long ceased to imitate, and all their subsequent buildings are copies, more or less exact, of the great creation of Justinian.

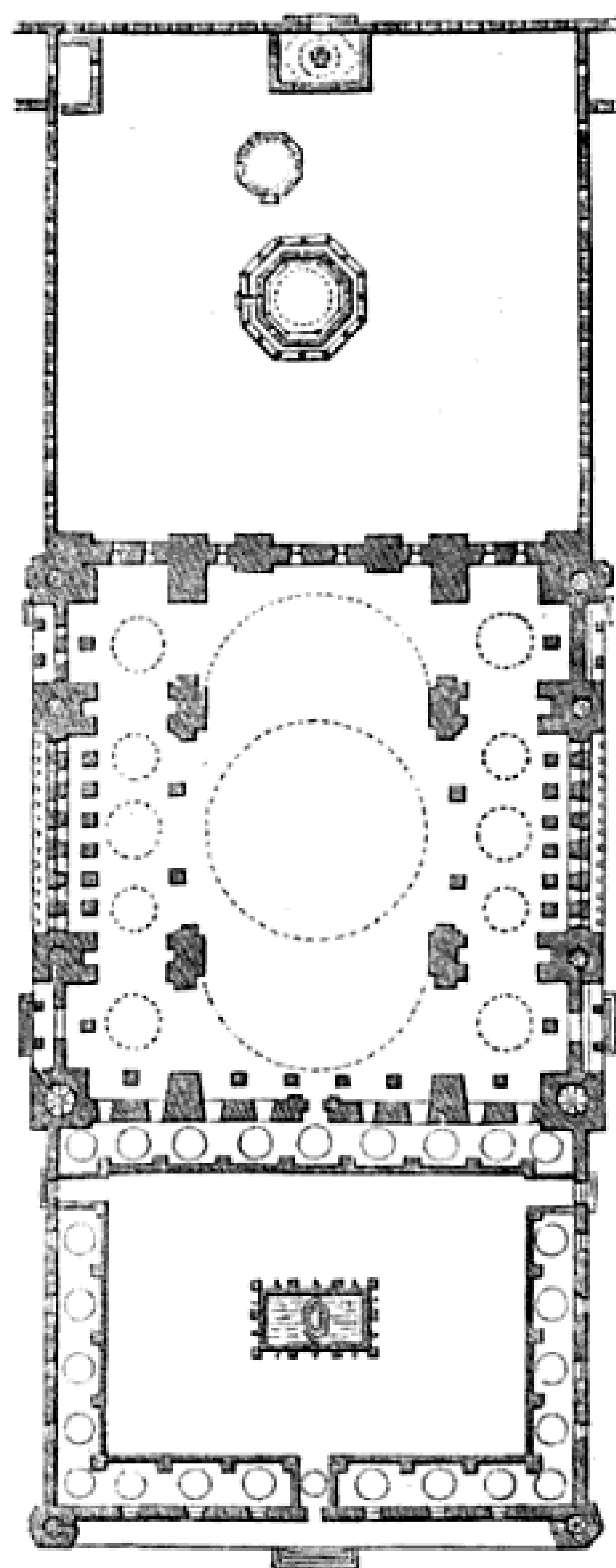
Having no drawings on which dependence can be placed, it is difficult to say what the mosque of Mahomet II. is, though, as the earliest, it is the most interesting of its class. That of Soliman, 1550-1555, is avowedly a copy of Sta. Sophia, not only in plan and form, but even in size, though it surpasses the original both in details and construction. When Achmet built his great mosque in 1610, the style had acquired a slight degree of independence. The idea of St. Sophia was still there; but modified both in form and detail, so that it was becoming a consistent example of an independent style. After another century of progress we should have lost the type of the old Justinian church, as completely in the mosques of Constantinople as in the Taje at Agra, and perhaps for as noble a style; but unfortunately the Levant, and especially this great capital, always swarms with Frankish renegades, especially Italians, many of whom, from the superior constructive skill of Western Europe, have been employed as engineers and master builders, and in this capacity have not failed to introduce their favourite Renaissance. Roman pillars reappeared shortly after the time of Achmet, with Italian pilasters, and balusters, and consoles; so that before Osman built his mosque, about a century later, the style had received its death-blow.

It is very much to be regretted that we have neither any verbal account of the mosques of Constantinople, nor any illustrations which can be depended upon. The best are those published by Grelot, as long ago as 1680; but like all works of that class in that age, they are very imperfect: since then we have had nothing but flippant remarks

or picturesque sketches, far more likely to mislead than to instruct; and, indeed, it still remains for some traveller to visit Constantinople, with sufficient taste to discriminate what is good from what is bad, with sufficient knowledge of architecture to describe intelligibly what he sees, and, above all, with sufficient love of truth to induce him to ascertain measurements and facts, and to record them honestly.

The earliest of the Turkish mosques is that of Mahomet II., or of the Conqueror, as it is called (1465-69). Its dimensions seem small, probably about 100 ft. by 150; and I am not aware that it is distinguished by any architectural peculiarity, though as the first it would form an interesting commencement to the series, if it were known and could be estimated.

The next in the series is that of Soliman the Magnificent (1530-55), which is probably the finest in many respects of those built by the Turks in Constantinople. As will be seen from the annexed plan (copied from Grelot) it is nearly a square—227 ft. by 234, it is said—and, except in the absence of the apse and smaller width of the side aisles, it is nearly an exact copy of Sta. Sophia, in so far at least as its general ordinance is concerned.



363. Mosque of Soliman. From Grelot's Constantinople. No scale.

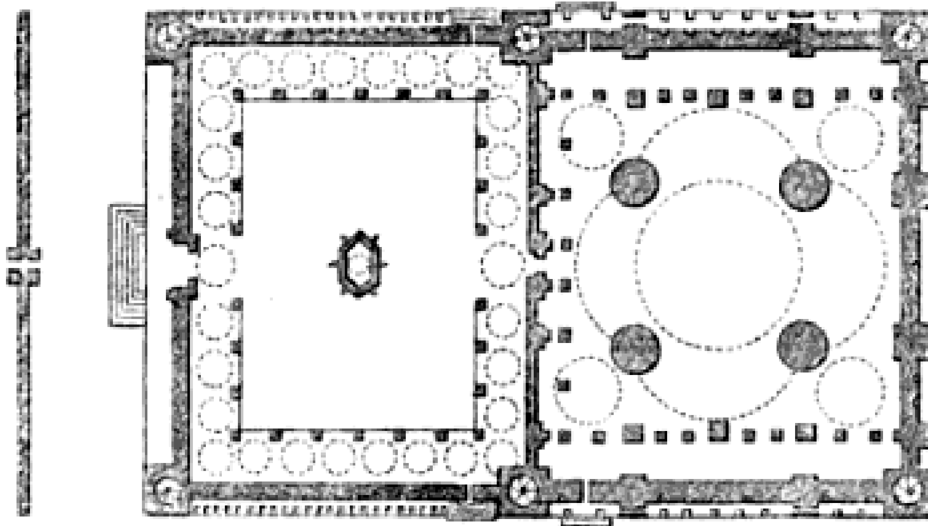
The great dome, which seems to be about 100 ft. in diameter, is supported by four great piers of masonry, supporting four arches. The corners of the square made by these arches are filled up with *pendentives*, on which the dome itself is placed. Against two of these arches are placed two semi-domes, of the same diameter as the great one—which, with the thickness of the pier arches, make up the whole internal length of the mosque. Between the other two arches of the great dome are placed great granite pillars of one block each, said to be 60 ft. in height, joined by arches, on which rests a wall-space filling up the side arches of the dome; and in these walls are placed the principal windows that light the centre of the building. There does not seem to be any second gallery, and altogether the arrangement seems to be a considerable improvement on that of Sta. Sophia.

In front of the mosque is a square court with a fountain in the

centre, of the same width as the mosque, though less in breadth. This was an invariable accompaniment of all Christian basilicas of the age of Justinian, to which, in the buildings now under consideration, the Turks practically returned. In the earlier centuries of the Hejra, as we have seen above, the court became the mosque itself, the basilica part having been gradually diminished till it became evanescent. Here, however, it reappears in its proper character and place, as of old, with merely the adjunct of a minaret at each angle. In this instance the two minarets at the outer angles are smaller than those attached to the mosque, which is a pleasing though not common mode of subordination.

In the garden behind the mosque, too, we again come on the well-known feature of the octagonal tombs of the founders and their families, which we missed in Spain, but which occur here again now that we have got among a race belonging to the great Tartar family of mankind.

The next is the mosque of Achmet, who ascended the throne in 1603.



361. Mosque of Achmet. From Grelot's Constantinople. No scale.

It seems to be of about the same dimensions as the mosque of Soliman, but differs considerably from it in arrangement; the central dome is smaller, not exceeding 80 ft. in diameter, but is surrounded by 4 semi-domes, one on each side, so as practically to make up a great domical roof of not less than 160 ft. in diameter, and there are 4 smaller domes on the corners, besides a broad and handsome gallery on each side, making it longer—as it should be—in the direction at right angles to Mecca.

This mode of arranging the subordinate domes with the central one is, I feel convinced, the most beautiful form of roofing yet invented by man, and the most capable of being elaborated into forms of beauty and grace. It would have required, however, at least another century's perseverance in the track before the Turks, or any other people, could successfully elaborate a construction so novel in many respects. Here it has certainly not been perfectly successful; the great piers that support the dome are not only inelegant, but inappropriate, as they do not bring down the lines of the roof to the

ground, and the domes themselves are not so graceful as they might be. But the greatest defect is, probably, the one most difficult to remedy, being the extremely scattered mode in which the light is admitted. All these mosques have 24 windows at the springing of the great dome, and 12 in each of the semi-domes, besides numerous small windows in the walls and subordinate domes, making altogether a number of small openings, very destructive of repose in the architectural effect.

The court here is similar to that of the last described mosque; but this one alone, of all those of the Turkish empire (except Mecca), possesses six minarets, four at the angles of the court, and two at the angles of the building behind. These too seem to be more than usually graceful in design, and add very much to the beauty of the whole. So far as we can judge, all the details of the mosque are better designed and more consistent in themselves than any of those which either came before or were built after its erection. Indeed, it may be fairly said to be the best and most complete specimen of a style found nowhere else, and in no other age than that of its illustrious founder.

Scarcely less important than these, though even less known, are the great mosque of Bajazet (1481-1512), and that built by Soliman the Magnificent, in 1544, in memory of his son Mustapha, whose name it bears, and for whom it serves as a sepulchre. The mosque of Selim II. is also well worthy of attention (1566-1574), though inferior to that of Validé, the mother of Mahomet IV., to whose pious enthusiasm Constantinople is indebted for one of the most splendid religious foundations it possesses, of which her mosque forms a part. The mosque of Osman, 1755, has been already alluded to as showing the transformation which the Turkish style underwent from the introduction of Frankish forms; and from this time, though many magnificent buildings have been erected, they show more or less the prevalence of that taste which has destroyed all originality and architectural beauty throughout Europe.

Besides these imperial mosques of the capital, almost every important city of the empire possesses one or more worthy of study in proportion to their age, and many of them really beautiful and graceful edifices. But with scarcely an exception, these are utterly unknown, or at least no sufficient materials have been published to enable us either to classify or describe them with accuracy.

The same remarks apply to nearly all the civil buildings of the Turkish empire, with the exception perhaps of the fountains. That of the Seraglio has often been drawn, and generally their light and sparkling architecture seems to have attracted more attention than the more monumental, but less ornate style of the mosques. In their fountains the Turks seem to have given rein to that playful fancy which characterises the architecture of Cairo or Granada, but which, from some motive not usual in the East, they seem to have restrained in their religious edifices.

In the interior of their dwellings they seem also to have revelled

in exuberance of ornament, but in a lighter and even more ephemeral style than is found elsewhere in Saracenic art, and therefore coming more under the head of decorative than of monumental art. Like their picturesque dresses and arms, this is fast disappearing before the dingy uniformity of Western utilitarian practices; and one must travel far indeed to escape the influence of Paris or of Birmingham. Still there no doubt remain, in almost every province of the empire, specimens a century or two old, which would display all that taste and beauty we so admire in other countries of the East and South. They have hitherto been overlooked, and perhaps, after all, do not deserve so much attention as the earlier Christian relics of the same localities.

Conclusion.

We have now run rapidly, and it must be confessed somewhat imperfectly, through all the varying forms which Mahometan art assumed during the 1000 years in which it flourished. We have seen it spreading itself in a belt across the Old World, from the shores of the Atlantic to those of the Bay of Bengal. We have seen it gathering inspiration and culling beauties from all those styles which preceded it in the countries where the Moslems settled, first employing native artists and adopting native forms, but gradually working up those forms into something new, something more beautiful and more consistent with their wants and purposes, rejecting whatever was incongruous, and extracting the beauties they required. Thus it was that the architecture of the Mahometans was at first Roman, Byzantine, Persian, or Indian, according to the country where it is found; but in all these countries we find it elaborated into a perfectly complete and original style, in the later examples of which it is only possible to detect the first elements by tracing it back through its preceding stages to the fountain head.

The people who effected all this can in no instance be called a great people; nor do their works ever reach true grandeur, nor even affect sublimity. Beauty was their aim; and gifted, as nearly all the nations of the Moslem world were, with an exquisite sensibility and the keenest perception of the beautiful, they attained to this by means of a degree of taste and refinement which seem innate in them. The grace and elegance of their architecture has never been surpassed. In the higher qualities of art, this style is certainly inferior to the Egyptian, Grecian, or Gothic style; but it surpasses them all in endless fertility of invention, as well as in the variety of ornament and detail which lend such a charm to every work they ever produced.

In this, and in many other respects, the style is worthy of far more attention than it has hitherto received; but more perhaps from what it is capable of suggesting, than from what it has actually accomplished. It never has been in the hands of a great people who could impart greatness to everything they did. The Mahometan nations were led by their exuberance of fancy, and impatience of all restraint,

to try every form, to attempt to fix every floating idea, and to take advantage of every suggestion either of nature or of art. Hence that boundless multiplicity of detail which Saracenic architecture presents, and the innumerable hints it affords for those who know that art is not confined to one or two forms, and is not to be confined by figures or by rules, but is everywhere and in everything for those who seek it honestly and for its own sake.

PART II.

CHRISTIAN ARCHITECTURE.

BOOK I.

ROMANESQUE.



CHAPTER I.

INTRODUCTORY.

Like the study of all modern history, that of Christian architecture commences with Rome, and not, as is sometimes supposed, where the history of Rome leaves off, but far back in the Empire, if not, indeed, almost in the Republic.

As has already been pointed out, the whole history of the art in Imperial Rome is that of a style in course of transition, beginning with a purely Pagan or Grecian style in the age of Augustus, and passing into one almost wholly Christian in the age of Constantine.

At the first epoch of the Empire the temple architecture of Rome consisted in an external arrangement of columns, without arches or vaults, and wholly unsuited to the purposes of Christian worship. Towards the end of the period it had become an internal architecture, using arches and vaults almost entirely to the exclusion of the columnar orders, except as ornaments, and so perfectly adapted to Christian forms, that little or no essential change has taken place in them from that time to the present day. A basilica of the form adopted in the first century after Constantine is as suited now as it was then to the forms and ceremonies of the Christian ritual.

The fact seems to be, that during the first three centuries after the Christian era an immense change was silently but certainly working its way in men's minds. The old religion was effete: the best men, the most intellectual spirits of the age had no faith in it; and the new religion with all its important consequences was gradually supplying its place in the minds of men long before it was adopted as a form.

There is thus no real distinction between the Emilian or Ulpian basilicas and those which Constantine erected for the use of the early Christian republic. Nor is it possible, in such a series as the Pantheon, the Temple of Minerva Medica, and the Church of San Vitale at Ravenna, to point out what part really belongs to Pagan, and what to Christian art.

It is true that Constantine fixed the epoch of completed transition, and gave it form and substance; but long before his time Paganism was impossible, and a reform inevitable. The feeling of the world had changed—its form of utterance followed as a matter of course.

Viewed in this light, it is impossible to separate the early history of Christian art from that of Imperial Rome. The sequence is so immediate, and the change so gradual, that a knowledge of the first is absolutely indispensable to a right understanding of the second.

Although, therefore, to prevent needless repetition, and breaking again the thread of the subsequent narrative, it has been deemed expedient to interpolate the Saracenic styles before taking up the Christian, it will be understood that, philosophically at least, these chapters follow immediately on those which treat of the architecture of Imperial Rome; and having now discussed all the styles of the world except the Christian, it only remains to follow that style in its two great branches, the Gothic and Byzantine, till both perished before the rising influence of the Renaissance.

The first chapter in this history must necessarily be devoted to the Romanesque or debased Roman—the first form which Christian architecture took on emancipating itself entirely from Pagan influence.

This style prevailed not only in the West, but in the East, over the whole of the great Roman empire, from the time of Constantine to that of Justinian. It can only, however, be considered as a second stage of transition, which after two centuries' duration branched off into the two great divisions of Christian architecture—the Byzantine and the Gothic. The origin of these two styles being identical, and their duration about the same, it is almost immaterial which is first taken up and followed to the close.

It will be more convenient to take up the Western styles first, not only on account of their greater importance, but because they flow more consecutively out of the Romanesque, and throughout their whole history remained more directly under its influence than the more Eastern styles.

After the age of Justinian the Byzantine separated itself wholly from the Roman types; but this was not the case in the West. The Romanesque prevailed in Rome itself during the whole period of the middle ages, and in the 16th century faded by almost imperceptible degrees into the Renaissance. It prevailed also down to the 11th and 12th centuries on both shores of Italy, and in the south of France wherever the barbarians did not penetrate. It consequently would cause a break in the thread of the narrative, if, after carrying the Romanesque style down to the time of Justinian, we should turn aside to the subject of Byzantine architecture, and then resume the history of the Western style, till we find it mingling with and influencing the art practised by the barbarians who overthrew the Western empire.

Nomenclature.

Before proceeding to describe any of these styles, it is necessary to say a few words on the nomenclature to be adopted: not that there is really any difficulty in the subject, but that, as always happens in young sciences, considerable confusion has been introduced by hasty

generalization and ill-judged attempts to apply a system of names suited to preconceived ideas, instead of merely affixing such names as serve best to describe the objects spoken of.

In speaking for instance of the styles that have already occupied our attention, it has been sufficient to specify Egyptian, Assyrian, Persian, or Grecian and Roman architecture; subdividing these, when necessary, either by mentioning the age of the variety we wished to particularize, or applying to it some dynastic or epochal name in order to fix its age. Thus the varieties of Egyptian architecture are identified by describing them as the styles of the 4th or of the 18th dynasty, or of the Ptolemys or Romans. These varieties too may be farther marked by the names of kings to any extent required. The ages of Pericles and Alexander were the two great epochs of Grecian art, and names either before or after these may be taken to fix the age and style of any work with the utmost precision. So in Rome the names of Augustus, Nero, or Trajan; of the Antonines, of Caracalla, or of Constantine, subdivide their art without confusion or mistake, and without the necessity of any system. But after this age these wise and simple principles of nomenclature have been abandoned. It has become, for instance, the fashion to apply the term Byzantine to styles as unlike anything Byzantium ever saw as any one style can be to another, and where it is impossible to trace any influence, direct or indirect, that capital had on the buildings in question. Romanesque in like manner is applied to styles as essentially Barbarian as the most pointed and most florid Gothic. It has been attempted to apply the name Lombard to all the round arched styles of Europe, and German and Teutonic to all the pointed arched styles, all involving the assumption of theories which, so far from being granted, are generally without the least foundation in fact.

In this country this predilection for the systematizing of styles has been pursued with more assiduity than elsewhere, and one nomenclature has succeeded another with a rapidity that has rendered confusion worse confounded.

One of the earliest and best attempts was that of Rickman; he divided our native art into four divisions: Norman, Early English or Lancet, Decorated, and Perpendicular. From the last it has been found requisite to separate the Tudor, as a well-defined variety; and the acknowledgment of Saxon has again entitled that style to rank with the rest. We have here, therefore, three or four dynastic names, and as many technical ones. Latterly several attempts have been made to improve on this, but generally by getting rid of the dynastic names and substituting for them technical ones—derived either from the window tracery, or some subordinate peculiarity which the names assigned always describe briefly, often incorrectly, and after all convey no information. The terms Saxon, Norman, Tudor, Elizabethan, and such like, however, maintain their ground, and I believe a far more philosophical course would be to extend these, leaving the technical names merely as descriptive affixes. Thus English architecture might be divided into Saxon, Norman, Plantagenet, Edwardian, Lancas-

trian,[1] Tudor, and Elizabethan. Jacobean has been applied to the next variety, while that which follows, including the works of Inigo Jones and Wren, might be appropriately distinguished by the name of Stuart. Denominations of this sort admit of subdivisions to any extent. Thus the styles of the 1st, 2nd, or 3rd Edwards are sufficiently distinct to require separate names, though no technical term could point out exactly in what the difference consists. Even the styles of the beginning and end of the long reign of Edward III. require to be distinguished, and can easily be by this form of nomenclature, but can by no other yet proposed. So with the four Georges or the Stuarts, Lancastrian, Plantagenet, &c. The three Richards by a singular coincidence mark three ages of transition. Even without these adventitious advantages, a name so given marks the country and the age without fail, and describes the style with perfect correctness, without even suggesting the necessity of a system.

Another mode of attaining the same end has been partially adopted by the French, by giving the date instead of the dynasty: thus they speak of their styles of the 12th, 13th, or 14th centuries, and subdivide them into styles of the "first half," "second half," or commencement or middle of each of the centuries; a process as unobjectionable as the one above described, except in the circumlocution it requires, and the desirability of finding a single word if possible to express our meaning.

Whichever of these two last systems it may be thought most expedient to adopt, the great desideratum is obtained of a title which shall in the first place express the country where the style was practised and is found, and secondly the age to which it belongs. A third or technical title may be added to characterise it, but this is always unnecessary to any one at all acquainted with the subject; for when the country and age are known, the style is far more clearly suggested than it could be by any technical term drawn from one of its peculiarities.

In the following pages, therefore, the words Romanesque, Lombard, Rhenish, Norman, will be used like Spanish, Sicilian, or any other local name, only in the sense in which they are usually applied. The subdivisions as to time will be marked either by the date of the epoch or some king's or dynastic name which clearly marks it, and technical terms will be used as sparingly as possible, though such words as round-arched, or pointed Gothic, flamboyant, &c., seem unobjectionable and necessary to distinguish classes.

It is not perhaps necessary to say more on this subject here, as the development of these principles will naturally appear in the course of the work, and will be easily understood, as they involve no system. It is only therefore requisite to explain further in what order it is

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[1] In writing the second volume of my 'True Principles of Beauty' in 1847 I adopted this mode of nomenclature exclusively. That book, however, never was published, and, in the meanwhile, Mr. Garbett has printed and published one in which the principles and most of the names given above are announced. The merit of the suggestion, if any, therefore belongs to him.

proposed to describe the styles of Christian art, and the principal names to be applied to them.

The first is most properly designated Romanesque, or modified—in this instance unfortunately debased—Roman. From the time of Constantine to that of Justinian it pervaded the whole empire, and no distinction can be drawn between the East and West sufficient to warrant their separation. Minute differences may be observed, constituting varieties—these are easily marked by secondary titles.

With Justinian a distinct separation takes place, the limits of which may be generally defined as follows:—If a line be drawn from the shores of the Adriatic to the shores of the Baltic, say from Fiume to Königsberg, it will divide Europe into two nearly equal portions; of these the eastern half is inhabited by Slaves, Huns, Servians, and other races, differing considerably from those to the westward, generally adhering to the Greek Church, and practising a style of architecture correctly called the Byzantine, which neither influenced nor was influenced by that of the West after the age of Justinian. To the westward of this line the case was very different: in those countries which had been the most populous and were most completely civilised under the Roman rule, the Romanesque style continued to be practised to a much later date than the 7th century—in Ravenna and Venice down to the 10th or 11th century, with the solitary but important exception of St. Mark's of Venice, the design of which certainly belongs to the East, with which that city was at that age more closely connected than with Rome. On the west coast, at Florence and Pisa, it continued to at least as late a date, and in the south of France it was practised till the 12th century at least, though with a difference sufficiently marked to obtain for it the distinguishing name of Romance or Provençal. In Spain too it continued, I believe, along the Mediterranean shore to as late a period; but that land is still architecturally almost unknown.

With the age of Charlemagne a new form of art arose, to which the general name of Gothic may be correctly applied, meaning thereby all those styles which were introduced by the barbarians who overthrew the Roman Empire. Acting at first under the direct influence of Rome, and afterwards guided by their own experience, they brought this style to that pitch of perfection which we still admire.

It has been objected to the name of Gothic that it was first used as a term of reproach, and is still often so used in common parlance; but it is never now so applied to architecture—it is therefore needless to regard this. Another and more important objection is that, though the Goths were one of the first invading tribes, they were insignificant in extent, and disappeared from the scene before the style attained anything like perfection. This would be fatal were we inventing a totally new system of nomenclature; but the term being in general use, and sufficiently expressing what we desire to express, it is better to take it than to supply an entirely new name. We would be understood therefore to apply architecturally the term Goth to all those Teutonic tribes of barbarians who overwhelmed the Roman Empire, and in the

dark ages established themselves within its boundaries. So defined, it will be found that, exactly in the ratio in which this barbarian element prevailed, the style of which we are speaking flourished in originality and beauty; but also that no other term or national name will comprehend all those various tribes and races who then occupied Europe. Teutonic, German, Frank, or Saxon, each exclude several great families of builders; and though Gothic may not be correct in an ethnographic point of view, if confined to architecture as above defined it can lead to no confusion, but on the contrary includes most appropriately not only the people, but the style they practised.

In adopting this extension of the term Gothic so as to apply it to the whole style, it may be requisite to distinguish between round-arched and pointed-arched Gothic, or, as it may be more succinctly expressed, between the Round and Pointed styles. Whatever term we use, this is indispensable; for Durham and York, Spires and Cologne are buildings of the same class, and must be regarded as belonging to one style: the mere introduction of the pointed arch is too trivial a difference to make such a separation as has hitherto been assumed to exist.

If it were desirable to establish a new name in lieu of Gothic, by far the best with which I am acquainted would be Feudal Architecture, as the style of which we are speaking arose with feudality, attained perfection with that system, and declined and expired with it. Moreover it existed in all those countries where the feudal system was introduced, and is found existing in those only, so that no name could be more appropriate or more correctly descriptive. The one apparent objection is that nine-tenths of the buildings we now find are ecclesiastical, and we generally apply this name only to secular institutions. The Church, however, in the middle ages was as essentially a part of the feudal system as the state itself, and bishops, abbots, and the lower grades of clergy, were as essentially peers and fiefholders as the barons with whom they were associated. It may at a future period be advantageous to introduce this new name, but at present it seems more expedient to adhere to the old one, with only the extension above alluded to.

Arrangement of Subject.

It is perhaps impossible to treat so extensive and so complicated a subject without some degree of repetition and confusion; but to avoid this as far as may be, it is proposed to take the Empire of Charlemagne as if it continued entire, treating France, Germany, and the North of Italy as one great architectural kingdom, as within this boundary we have the whole history of the art developed, and every peculiarity successively brought forward.

Regarding it in this light, Lombardy naturally takes the first place, as the part of the kingdom which was earliest civilised, and where the arts first attained any degree of consistency or perfection. Its history will be followed for the time in which it remained an indigenous Round-arched style.

From this the transition is easy to the German or Rhenish style, the valleys of the Po and of the Rhine forming in fact only two important divisions of the great Germanic Empire from the time of Charlemagne to the downfall of the Hohenstaufens, with whom also ended the Round-Gothic style of these two countries.

Contemporary with these, but differing in many essential respects, were the Round arched Gothic styles of France. These, though exceedingly and perplexingly various, never became so important as the Lombard or Rhenish; nor did any of them, except the styles of Auvergne and Normandy, acquire any very distinct individuality. Still they all possess considerable interest, and some of them show a degree of elegance almost unrivalled in that age, so that all must at least be mentioned and defined.

In speaking of the Pointed Gothic styles the course to be pursued is the reverse of this. There can now be no doubt but that the Pointed style was invented in France, and brought to a great degree of perfection there before the neighbouring countries took it up. So that, continuing the last chapter, we naturally pursue the thread of history, and, following it, have before us the whole history of the Gothic style before leaving the French soil.

After this it is easy to trace its introduction from France into Germany, and to point out the various modifications it underwent in that country. Few of these can be called improvements, though, from their being generally of the best age, and when architecture was almost suspended in France from the troubles of the country, the accidental result is that Germany possesses some Gothic buildings that may fairly rival many in France.

Again, the introduction of this style from France and Germany into Italy is easily traced and understood, and the various modifications it underwent there—none of which were improvements—are only too easily pointed out. We thus complete a perfect cycle of the art, tracing it from its origin back to the land of its birth, which was also that of its earliest decline, and where it first was superseded by the revival of the old Roman transitional style.

After this, it only remains to devote a separate chapter to each of the outlying styles not included in the above enumeration. First, to Sicily and Apulia, which present a strange admixture of Byzantine and Saracenic with Romanesque and Gothic feeling, indications of a confusion of races not found elsewhere.

Another chapter will include Spain and Portugal, where again we have an even stronger admixture of Saracenic art, giving to the Gothic of Spain a peculiar individuality of character which distinguishes it most essentially from those enumerated above.

From this we pass to Great Britain, where the history of the art is very similar to that of France; but at the same time exhibiting peculiarities well deserving of attention, and more interesting to us from their locality than almost any of those above pointed out.

Our enumeration concludes with Scandinavia, a country regarding which very little is yet known in an architectural point of view,

though its Round Gothic buildings are both numerous and interesting. In the Pointed style it has few buildings of importance, and these are so distinctly copies from the French, that little need be said about them.

And lastly, to avoid complicating the main subject, it may be necessary to devote short chapters to point out the peculiarities found in such countries as Holland and Pomerania, avoiding as far as possible too minute a subdivision, and only distinguishing those styles which can be defined by strongly marked architectural peculiarities.

CHAPTER II.

ROMANESQUE STYLE.

CONTENTS.

CHRONOLOGY.

	DATES.		DATES.
Honorius	A.D. 395	Liutprand, King of Lombardy	A.D. 712
Valentinian	425–435	Astolphus	749
Theodoric, King of the Ostrogoths	493–525	Desiderius	756
Justinian	527	Conquest by Charlemagne	774
Alboin Longimanus, King of Lombardy	568		

BASILICAS.

ONE of the most remarkable facts connected with the early history of the Christian religion is, that neither its founder nor any of his more immediate successors left any specific directions either as to the liturgical forms of worship to be observed by his followers, nor laid down any rules to be observed in the government of the newly established church. Under these circumstances it was left almost wholly to those to whose care the infant congregation was entrusted, to frame such regulations for its guidance as the exigencies of the occasion might dictate, and gradually to appoint such forms of worship as might seem most suitable to express the purity of the new faith, but at the same time with a dignity befitting its high mission.

In Judea these ceremonies, as might naturally be expected, were strongly tinctured with the forms of the Mosaic dispensation; but it appears to have been in Africa, and more especially in the pomp-loving and ceremonious Egypt, that fixed liturgies and rites first became an integral part of the Christian religion. In those countries far from the central seat of government, more liberty of conscience seems to have been attained at an early period than would have been tolerated in the capital. Before the time of Constantine they possessed not only churches, but a regularly established hierarchy, and a form of worship similar to what afterwards obtained throughout the whole Christian world. The form of government of the church, however, was long unsettled. At first it seems merely to have been, that the most respected individuals of each isolated congregation were selected to form a council to advise and direct their fellow-Christians, to receive and dispense their alms, and under the simple but revered title of Pres-

byters, to act as fathers rather than as governors to the scattered communities by which they were elected. The idea, however, of such a council naturally includes that of a president to guide their deliberations, and give unity and force to their decisions; and such we soon find springing up under the title of Bishops, or Presbyter Bishops, as they were first called. During the course of the second century the latter institution seems gradually to have gained strength at the expense of the power of the presbyters, whose delegate the bishop was assumed to be. In that capacity they not only took upon themselves the general direction of the affairs of the church, but formed themselves into separate councils and synods, meeting in the provincial capitals of the provinces where they were located. These meetings took place under the presidency of the bishop of the city in which they met, who thus assumed to be the chief or metropolitan. They thus formed a new presbytery above the older institution, which was thus gradually superseded—to be again surpassed by the great councils of the church, which after the age of Constantine formed the supreme governing body of the church; performing the functions of the earlier provincial synods with more extended authority, though with less unanimity and regularity, than had characterised the earlier institution.

It was thus that during the first three centuries of its existence the Christian community was formed into a vast Federal republic, governed by its own laws, administered by its own officers, acknowledging no community with the heathen, and no authority in the constituted secular powers of the state. But at the same time they admitted a participation of rights to the body of the faithful, from whom the hierarchy were chosen, and whose delegation was still admitted to be their title to office.

When in the time of Constantine this persecuted and scattered church emerged from the catacombs to bask in the sunshine of imperial favour, it was impossible that any buildings could be found more suited for their purposes than the basilicas of ancient Rome. They were designed and erected for the convenient transaction of the affairs of the heathen Empire, and were in consequence eminently suited for the convenience of the Christian republic, which then aspired to supersede its fallen rival and replace it by a younger and better institution.

In the basilicas the whole congregation of the faithful could meet and take part in the transaction of the business going on. The bishop naturally took the place previously occupied by the prætor or quæstor, the presbyters those of the assessors. The altar in front of the apse, where the pious heathen poured out libations at the commencement and conclusion of all important business, served equally for the celebration of Christian rites, and with the fewest possible changes either in the form of the ceremonies, or of the nature of the business transacted therein, the basilica of the heathen became the ecclesia or place of assembly of the early Christian community.

At this early age there seems to be every reason to believe, that the round church which usually stood by itself near the west end of

the basilica, was the ceremonial, or properly speaking, liturgical church of the community. It was certainly there that the most solemn and important rite, that of baptism, was always administered, whence it derived its name of *Baptistery*. These were also the tombs of important persons; and being copied from the tombs of the Romans, it is almost certain that the service of the dead, and the last sacrament, were here administered; and as a general rule all the sacraments, so far as we can trace them, belonged then to the circular building as contradistinguished from the ecclesia or place of assembly.

These arrangements were not long allowed to continue as we have described them: for the now dominant hierarchy of Rome soon began to repudiate the republicanism of the early days of the church, and to adopt from the East the convenient doctrine of the absolute separation of the congregation into clergy and laity. To accommodate the basilica to this new state of things, first the apse was railed off and appropriated wholly to the use of the clergy; then the whole of the dais, or raised part in front of the apse on which the altar stood, was separated by pillars, called cancelli, and in like manner given up wholly to the clergy, and not allowed to be profaned by the presence of the unordained multitude.

The last great change was the introduction of a choir, or enclosed space in the centre of the nave, attached to the bema or *presbytery*, as the raised space came to be called—round three sides of which the faithful were allowed to congregate to hear the Gospels or Epistles read from the two pulpits or *ambones*, which were built into its enclosure on either side; or to hear the services which were read or sung by the inferior order of clergy who occupied its precincts.

The enclosure of the choir was kept low, so as not to hide the view of the raised presbytery, or to prevent the congregation from witnessing the more sacred mysteries of the faith which were there performed by the higher order of clergy.

Another important modification, though it introduced no architectural change, was the introduction of the bodies of the saints in whose honour the building was erected, into the basilica itself, and placing them in a confessional or crypt below the high altar.

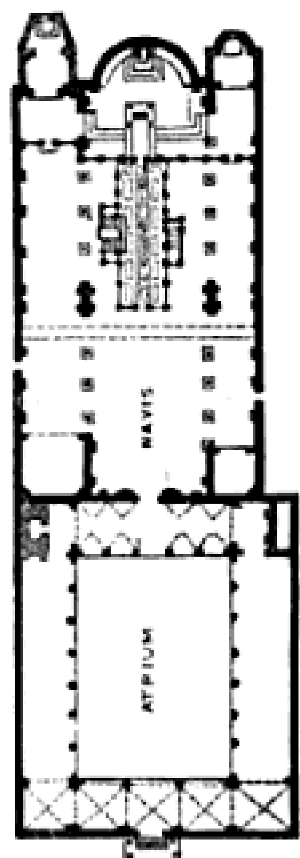
There is every reason to believe that a separate circular building, or proper tomb, was originally erected over the grave or place of martyrdom, and the basilica was sanctified merely by its propinquity to the sacred spot. Afterwards the practice of depositing the relics of the saint beneath the floor became universally the rule. At about the same time the baptistery was also absorbed into the basilica; and instead of standing opposite the western entrance, a font placed within the western doors supplied its place. This last change was made earlier at Rome than elsewhere. It is not known at what exact period the alteration was introduced, but it is probable that the whole was completed before the age of Gregory the Great.

It was thus that in the course of a few centuries the basilicas aggregated within themselves all the offices of the Roman church, and became the only ecclesiastical buildings they acknowledged—either as places

for the assembly of the clergy for the administration of the Sacraments and the performance of divine worship, or for the congregation of the faithful.

San Clemente.

Among the numerous basilicas of Rome no one retains at the present day the arrangements above described in the same state of completeness as that of San Clemente, erected in the 4th and 5th centuries on the site of the house of that saint. Though rebuilt in the 9th century, and subsequently repaired, it still retains in nearly a complete state all the ordinances of an original church of this class.



365. Plan of the Church of San Clemente at Rome. From Gutensohn and Knapp.[1] Scale 100 ft. to 1 inch.

It is one of the few that still possess an *Atrium* or court-yard in front of the principal entrance, though there can be little doubt but that this was considered at that early age a most important, if not indeed an indispensable, attribute to the church itself. As a feature it may have been derived from the East, where we know it was most common, and where it afterwards became, with only the slightest possible modifications, the mosque of the Moslems. It would seem even more probable, however, that it is only a repetition of the *forum*, which always was attached to the Pagan basilica, and from which it was always entered; and for a sepulchral church at least nothing could be more appropriate, as the original application of the word forum seems to have been to the open area that existed in front of tombs as well as other important buildings.[2]

In the centre of this atrium there generally stood a fountain or tank of water, not only as an emblem of purity, but that those who came to the church might wash their hands before entering the holy place—a custom which seems afterwards to have given rise to the practice of dipping the fingers in the holy water of the piscina, now universal in all Catholic countries.

The colonnade next the church was frequently the only representative of the atrium, and then—perhaps indeed always—was called the *narthex*, or place for penitents or persons who had not yet acquired the right of entering the church itself.

From this narthex 3 doorways open into the church, corresponding with the 3 aisles; and had there been a font, it ought to have been placed in a chapel on either the right or left hand of the principal entrance.

The choir with its 2 pulpits is shown in the plan—that on the left-hand side being the pulpit of the epistle, that on the right of the gospel. The railing of the *bema* or presbytery is also marked, so is

[1] Gutensohn und Knapp, Die Basiliken des Christlichen Roms.

[2] Cicero de Legg., ii. 24; Festus, s. v.; Smith's Dictionary of Classical Antiquities.

the position of the altar with its canopy supported on 4 pillars, and behind that the throne of the bishop, with the seats of the inferior clergy surrounding the apse on either side.

Besides this church there are at least 30 other basilican churches in Rome, extending in date from the 4th to the 14th century. Their names and dates, as far as they have been ascertained, are set forth in the accompanying list, which, though not altogether complete, is still the best we possess, and sufficient for our present purposes.[1]

BASILICAS OF ROME.

FOURTH CENTURY.

St. Peter's	Constantine (5 aisled)	about 330
St. Paul's	Theodosius and Honorius (5 aisled)	386

FIFTH CENTURY.

Sta. Sabina	Pope Celestine	about 425
Sta. Maria Maggiore	Pope Sixtus III.	432
St. Pietro ad Vincula	Eudoxia (Greek Doric pillars)	442

SIXTH CENTURY.

San Lorenzo (old part)	Pope Pelagius (galleries)	580
Sta. Balbina	Gregory the Great (no side aisles)	600

SEVENTH CENTURY.

Sta. Agnese	Honorius I. (galleries)	625
Quattro Coronati	Honorius I.	625
St. Giorgio in Velabro	Leo II.	682
San Chrisogono	Gregory III.	730

EIGHTH CENTURY.

S. Giovanni a porta Latina	Hadrian I.	790 ?
S. Maria in Cosmedin		790
S. Vincenzo alle Tre Fontane		790
S. Lorenzo (nave)		about 790 ?

NINTH CENTURY.

SS. Nereo ed Achilleo	Leo III.	about 800
S. Praxede	Paschal I.	820
S. Maria in Dominica		820
S. Martino ai Monti	Sergius and Leo	844, 855
S. Clemente	John VIII.	872
S. Nicolo in Carcere		about 900
S. Bartolomeo in Isola		900

TENTH CENTURY.

S. Giovanni in Laterano	Sergius III.	910

ELEVENTH CENTURY.

Nothing.

[1] It is copied from the work of the Chevalier Bunsen on the Roman Basilicas, which, with the illustrations of Gutensohn and Knapp, forms by far the best work on the subject that has yet been given to the world.

TWELFTH CENTURY.

S. Maria in Trastevere	Innocent II.	1135
S. Croce	Lucius.	1144
S. Maria in Ara Celi		uncertain

THIRTEENTH CENTURY.

Nothing.

FOURTEENTH CENTURY.

S. Maria sopra Minerva	Gothic	about 1370

FIFTEENTH CENTURY.

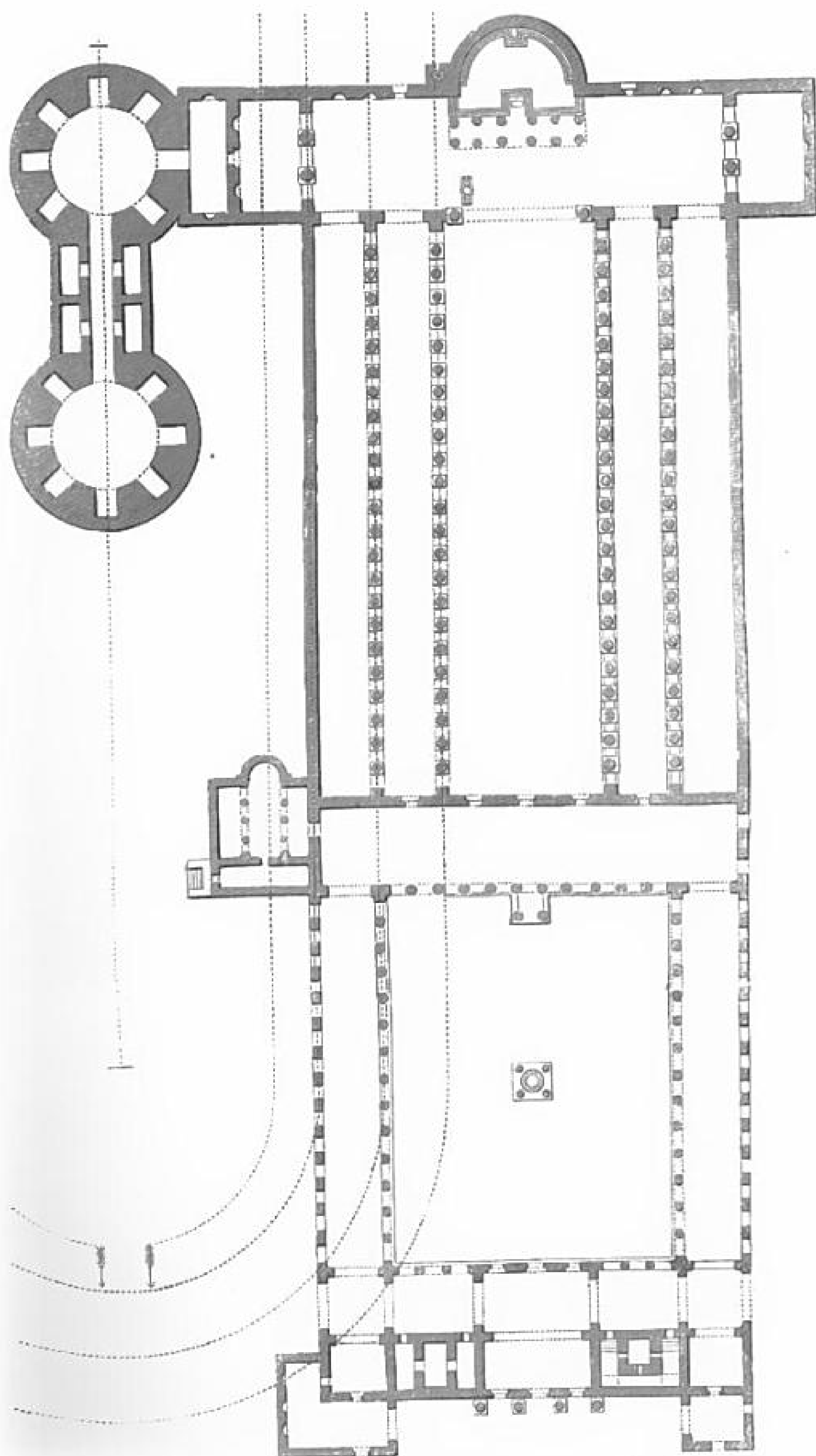
S. Agostino	Renaissance ?	about 1480

Of these, three, St. Peter's, St. Paul's, and the Lateran church, have 5 aisles, all the rest 3, with only one insignificant exception, Sta. Balbina, which has no side-aisles. Two, Sta. Agnese and the old part of St. Lorenzo, have their side-aisles in two stories, all the rest are only one story in height, and the side-aisles generally are half the width of the central aisle or nave. Some of the more modern churches have the side-aisles vaulted, but of those on the list all except the two last have flat wooden ceilings over the central compartment, and generally speaking the plain unornamental construction of the roof is exposed. It can scarcely be doubted that originally they were ceiled in some more ornamental manner, as the art of ornamenting this new style of open construction seems to have been introduced at a later date.

Of the two last named, the Sta. Maria sopra Minerva might perhaps be more properly classed among the buildings belonging to the Italian Gothic style; but as it is the only one in Rome that has any claim to such a distinction, it is hardly worth while making it an exception to the rest. The San Agostino might also be called a Renaissance specimen. It certainly is a transitional specimen between the pillared and pilastered styles, which were then struggling for mastery. It may either be regarded as the last of the old race or the first of the new style, which was so soon destined to revolutionise the architectural world.

Of the remaining examples the oldest was the finest. This great basilica was erected in the reign of Constantine, close to the circus of Nero, where tradition affirmed that St. Peter had suffered martyrdom. It unfortunately was entirely swept away to make room for the greatest of Christian temples, which now occupies its site; but previous to its destruction careful measurements and drawings were made of every part, from which it is easy to understand all its arrangements—easier perhaps than if it had remained to the present day, and four centuries more of reform and improvements assisted in altering and disfiguring its venerable frame.

As will be seen from the plan (woodcut No. 366), drawn to the usual scale, it possessed a noble atrium or forecourt, 212 ft. by 235, in front of which were some bold masses of building which during the



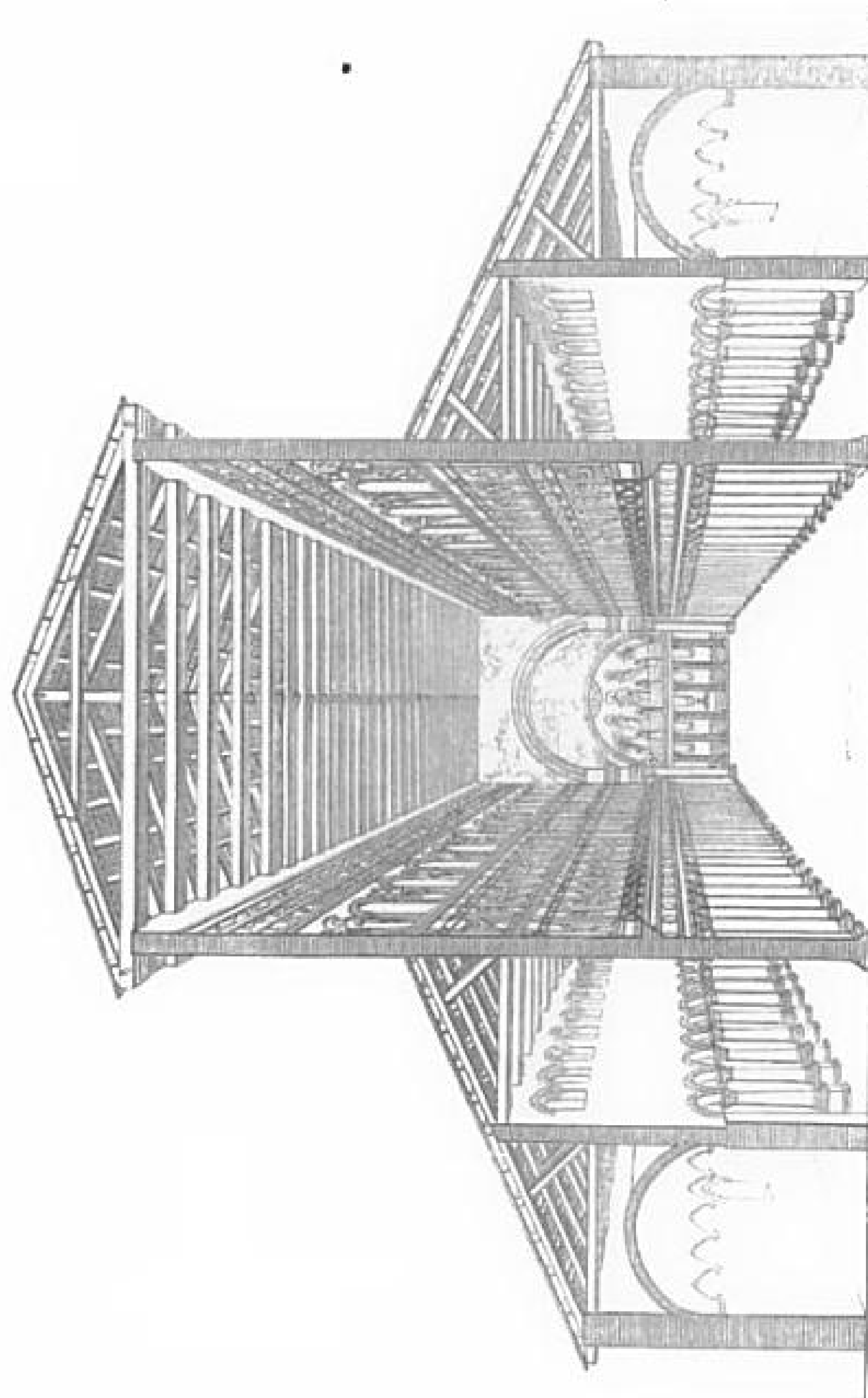
366. Plan of the original Basilica of St. Peter at Rome. From Gutensohn and Knapp.
Scale 100 ft. to 1 in.

middle ages were surmounted by 2 belfry-towers. The church itself was 212 ft. in width by 395 in length, covering an area of 114,000 English feet, which, though only half the size of the present cathedral, still is a greater space than is covered by any mediæval cathedral except those of Milan and Seville, with which it ranks in size. The central aisle was about 80 ft. across (about twice the average width of a Gothic nave), and nearly the same as that of the basilica of Maxentius and the great halls of the greater Thermæ. For some reason or other this dimension seems to have been a modulus very generally adopted. The bema or sanctuary, answering to the Gothic transept, extended beyond the walls of the church either way, which was unusual in Romanesque buildings. The object here seems to have been to connect it with the tombs on its north side. The arrangement of the sanctuary was also peculiar, having been adorned with 12 pillars supporting a gallery. These, when symbolism became the fashion, were said to represent the 12 apostles. This certainly was not their original intent, as at first only 6 were put up—the others added afterwards. The sanctuary and choir were here singularly small and contracted, as if arranged before the clergy became so numerous as they afterwards were, and before the laity were excluded from this part of the church.

The two most interesting adjuncts to this cathedral are the two tombs standing to the northward. According to the mediæval tradition the one was the tomb of Honorius and his wives, the other the church of St. Andrew. Their position, however, carefully centred on the spina of the circus of Nero, where the great apostle suffered martyrdom, seems to point to a holier and more important origin. My own conviction is that they were erected to mark the places where the apostle and his companions suffered. It is besides extremely improbable that after the erection of the basilica an emperor should choose the centre of a circus for the burying-place of himself and his family, or should be permitted to choose so hallowed a spot. They are of exactly the usual tomb-form of the age of Constantine, and of the largest size, being each 100 ft. in diameter.

The general internal appearance of the building will be understood from the following woodcut (No. 367), which presents at one view all the peculiarities of the basilican buildings. The pillars separating the central from the side aisles appear to have been of uniform dimensions, and supported a horizontal entablature, above which rose a double range of panels, each containing a picture—these panels thus taking the place of what was the triforium in Gothic churches. Over these was the clerestory, and again an ornamental belt gave sufficient elevation for the roof, which in this instance showed the naked construction. On the whole perhaps the ratio of height to width is unexceptionable, but the height over the pillars is so great that they are made to look utterly insignificant, which indeed is the great defect in the architectural design of these buildings, and, though seldom so offensive as here, is apparent in all. The ranges of columns dividing the side aisles were joined by arches, which is a more common as well

as a better arrangement, as it not only adds to the height of the pillars, but gives them an apparent power of bearing the superstructure. At some period during the middle ages the outer aisles were vaulted, and Gothic windows introduced into them—a change which seems to have necessitated the closing of the intermediate range of clerestory windows, which probably was by no means conducive to the general architectural effect of the building.



367. Basilica of St. Peter. From Fontana.

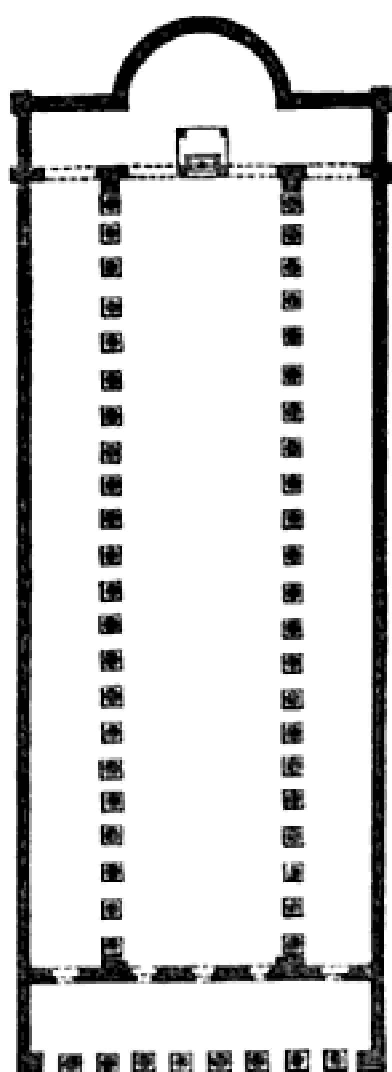
Externally this basilica, like all those of its age, must have been singularly deficient in beauty or in architectural design. The sides were of plain unplastered brick, the windows were plain arch-headed openings. The front alone was ornamented, and this only with two ranges of windows somewhat larger than those at the sides, 3 in each tier, into which tracery was inserted at some later period, and between

and above these, various figures and emblems were painted in fresco on stucco laid on the brickwork. The whole was surmounted by that singular coved cornice which seems to have been universal in Roman basilicas, though not found anywhere else that I am aware of.

St. Paul's.

The church of St. Paolo fuori delle Mura was almost an exact counterpart of St. Peter's both in design and dimensions. The only important variations were that the transept was made of the same width as the central nave, or about 80 ft., and that the pillars separating the nave from the side aisles were joined by arches instead of by a horizontal architrave. Both these were undoubted improvements, the first giving space and dignity to the bema, the latter not only adding height to the order, but giving it, together with lightness, that apparent strength required to support the high wall that was placed upon it.

The order too was finer and more important than at St. Peter's, 24 of the pillars being taken from some temple or building (it is generally said the mausoleum of Hadrian) of the best age of Rome, though the remaining 16 are unfortunately only very bad copies of their forms. These pillars are 33 ft. in height, or one-third of the whole height of the building to the roof. In St. Peter's they were only a fourth, and if they had been spaced a little farther apart, and the arch made more important, the most glaring defect of these buildings would in a great measure have been avoided.

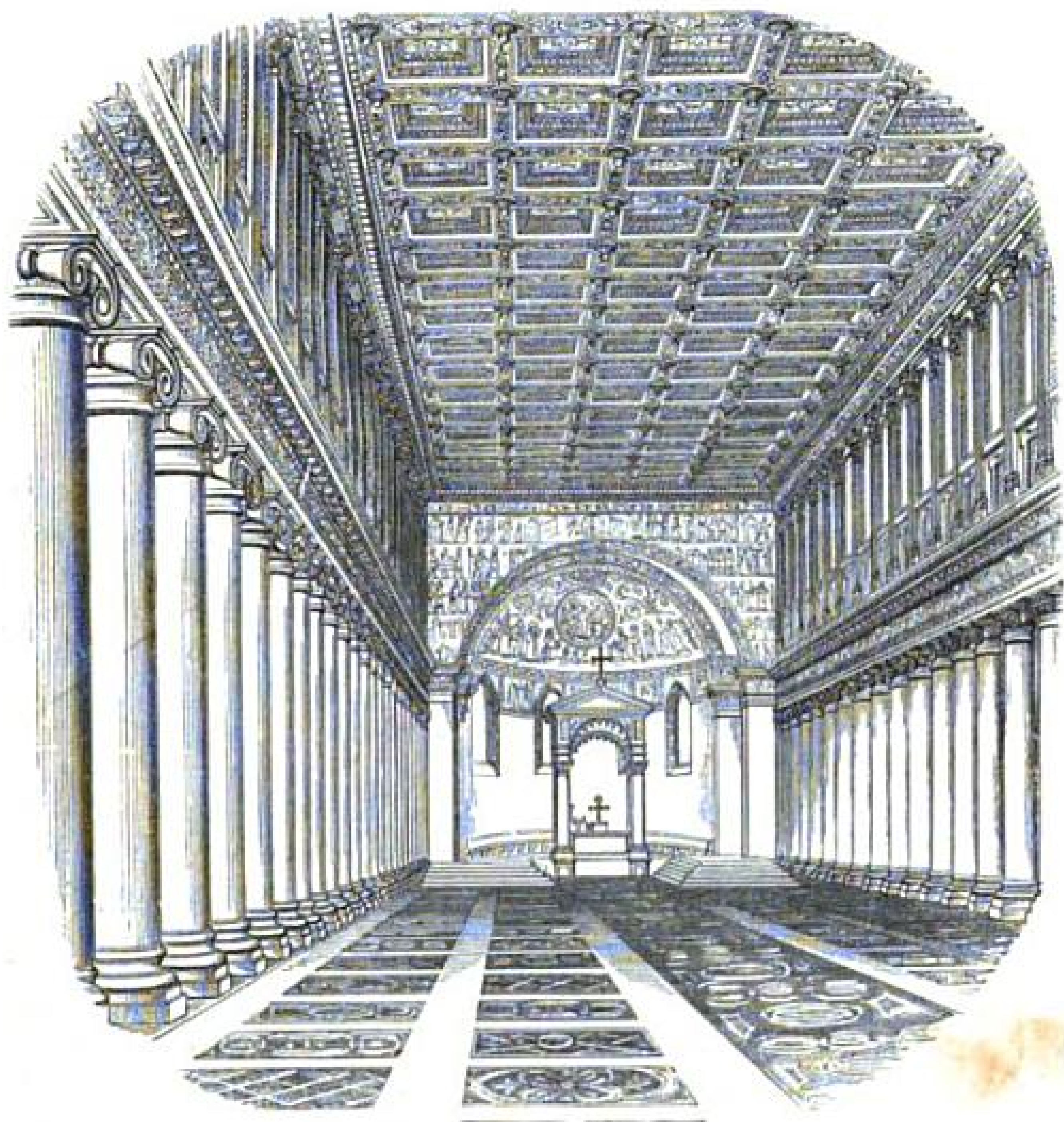


368. Plan of Sta. Maria Maggiore. Scale 100 ft. to 1 in.

Long before its destruction by fire in 1822 this church had been so altered as to lose many of its most striking peculiarities. The bema or presbytery was divided into two by a longitudinal wall. The greater number of its clerestory windows were built up, its atrium gone, and decay and whitewash had done much to efface its beauty, which nevertheless seems to have struck all travellers with admiration, as combining in itself the last reminiscence of Pagan Rome with the earliest forms of the Christian world. It certainly was the most interesting, if not quite the most beautiful, of the Christian buildings of that city.

The third 5-aisled basilica, that of San Giovanni Laterano, differs in no essential respect from those just described except in dimensions, covering only about 60,000 ft., and consequently scarcely more than half the space occupied by the others. It has been so completely altered in modern times that its primitive arrangements can now hardly be discerned, and certainly its effects, if any were peculiar to it, cannot now well be judged of.

Of those with 3 aisles by far the finest and most beautiful is that of Sta. Maria Maggiore, which, notwithstanding the comparative smallness of its dimensions, is now perhaps the best specimen of its class remaining. Internally its dimensions are 100 ft. in width by 250 to the front of the apse; the whole area about 32,000 ft.: so that it is little more than half the size of the Lateran church, and between one-third and one-fourth of the two older churches.



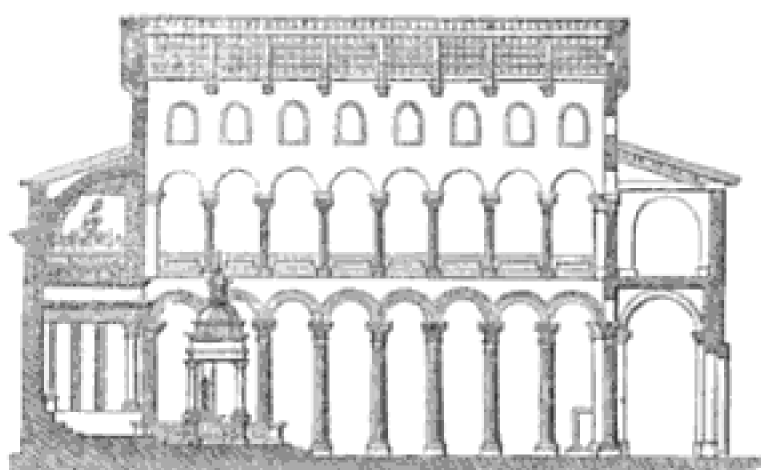
369. View of Sta. Maria Maggiore. From Gutensohn and Knapp.

Notwithstanding this there is great beauty in its internal colonnade, all the pillars of which are of one design, and bear a most pleasing proportion to the superstructure. The clerestory too is ornamented with pilasters and panels, so as to make it a part of the general design; and with the roof, which is panelled with constructive propriety and simplicity combined with sufficient richness, serves to make up a whole, giving a far better and more complete idea of what a basilica either was originally, or at least might have been, than any other church at Rome. It is true that both the pilasters of the clerestory and the roof are modern, and in modern times the colonnade has been broken

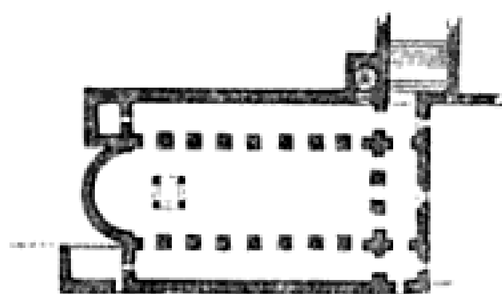
through in two places; but these defects must be overlooked in attempting to judge of the whole.

Another defect is that the side aisles have been vaulted in modern times, and in such a manner as to destroy the harmony that should exist between the different parts of the building. In striving to avoid the defect of making the superstructure too high in proportion to the columns, the architect has made the central roof too low either for the width or length of the main aisle. Still the building, as a whole, is perhaps the very best of all the wooden roofed churches of Christendom, and the best model from which to study the merits and defects of this style of architecture.

Another mode of getting over the great defect of high walls over the pillars was adopted in Sta. Agnese and St. Lorenzo, of using a gallery corresponding with the triforium of Gothic churches. In both these instances it seems to have been suggested, if not required, by the peculiarity of the ground being higher on one side than on the other; but whether it was so or not, the result was most happy, and had it been persevered in, so as to bring the upper colonnade more into harmony of proportion with the other, it would have had the happiest results on the style. Whether it was, however, that the Romans felt the want of the broad plain space for their paintings, or that they could not bring the upper arches into proportion with the classical pillars which they made use of, the system was abandoned as soon as adopted, and never came into general use.



370. Section of Sta. Agnese. From Gutensohn and Knapp. Scale 50 ft. to 1 in.



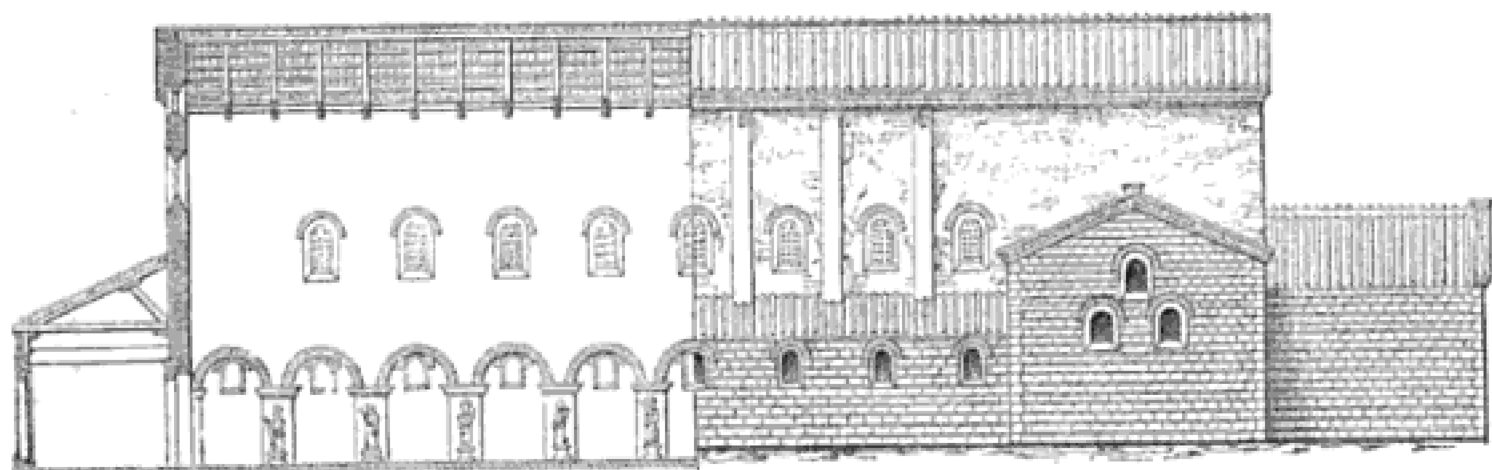
371. Plan of Sta. Agnese. Scale 100 ft. to 1 in.

In San Lorenzo the effect is spoiled, from that church having been so much altered when the nave was added that it is not easy to judge of the original design; and the whole being made up of incongruous fragments of classical buildings, it has a piecemeal appearance very prejudicial to architectural effect.

In some instances, as in San Clemente, above alluded to, in San Pietro in Vincula, and Sta. Maria in Cosmedin, the colonnade is divided into spaces of three or four intercolumniations by blocks of solid masonry, which give great apparent solidity and strength to the building, but at the expense of dividing it into three compartments, more than is agreeable, and destroying that beauty of perspective which is so pleasing in a continuous colonnade. This defect seems to have been felt in the Santa Praxede, where these blocks are placed angularly, and support each a bold arch thrown across the central aisle. The

effect of this might have been most happy, and is so at San Miniato, near Florence; but is so clumsily managed here, as to be most destructive of all beauty of proportion.

Some of the principal beauties as well as some of the most remarkable defects of these basilican churches arise from the employment of columns torn from ancient temples: where this has been done, the beauty of the marble, and the exquisite sculpture of the capitals and friezes, give a richness and elegance to the whole that goes far to redeem or to hide the rudeness of the building in which they are encased. But on the other hand, the discrepancy between the pillars, Doric, Ionic, and Corinthian columns being sometimes used side by side, destroys all uniformity, and the fragmentary character of the entablatures they support is still more prejudicial to the continuity of the perspective, which is the greatest charm of these churches. By degrees, the fertile quarries of ancient Rome seem to have become entirely exhausted; and as the example of St. Paul's proves, the Romans in the 4th century were incapable of manufacturing even a bad imitation—they were at last forced to adopt some new plan of supporting their arcades. The church of SS. Nereo ed Achilleo is, perhaps, the most elegant example of this class, the piers being light octagons; but the most characteristic, as well as the most original, is the San Vincenzo alle Tre Fontane, shown in section and elevation in the woodcut, No. 372. It so far deviates from the usual basilican arrangements as almost to deserve the appellation of Gothic. It has the same defect as all the rest—its pier arches being too low, for which there is no excuse here; but both internally and externally it shows a uniformity of design and a desire to make every part ornamental that produces a very pleasing effect, although the whole is merely of brick, and ornament is so sparingly applied as only just to prevent the building sinking to the class of mere utilitarian erections.



372. Half Section, half Elevation, of the Church of San Vincenzo alle Tre Fontane. From Gutensohn and Knapp. Scale 50 ft. to 1 in.

One of the most pleasing architectural features, if I may so call it, of these churches, are the mosaic pavements that adorn the greater number. These were always original, being designed for the buildings in which they are used, and following the arrangement of the architecture that stands on them. The patterns too are always elegant, and appropriate to the purpose; and as the colours are in like manner

generally harmoniously blended, they form not only a most appropriate but most beautiful basement to the architecture.

A still more important feature was the great mosaic pictures that always adorned the semi-dome of the apse, representing most generally the Saviour seated in glory surrounded by saints, or some scene from the life of the holy personage to whom the church was dedicated. These mosaics were generally continued lower down to nearly the level of the altar, and along the whole of the inner wall of the sanctuary in which the apse was situated—as far as the triumphal arch which separated the nave from the sanctuary. At this point the mosaic blended with the frescos that adorned the upper walls of the central nave above the arcades. All this made up an extent of polychromatic decoration, which in those dark ages, when few could read, the designers of these buildings seem to have considered as virtually of more importance than the architectural work to which it was attached. Any attempt to judge of the one without taking into consideration the other, is pronouncing on hearing only half the evidence; but taken in conjunction, the paintings go far to explain, and also to redeem, many points in which the architecture is most open to criticism.

Ravenna.

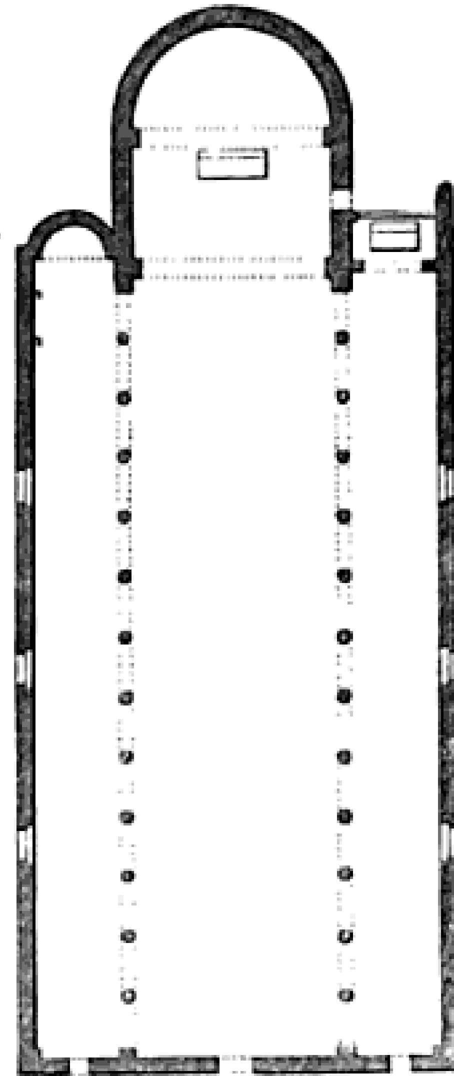
During the whole period when the Romanesque style was most flourishing, the city of Ravenna almost rivalled in importance the old capital of the world, and her churches were consequently hardly less important either in number or in richness than those we have just been describing. It is true she had none so large as the great metropolitan basilicas of St. Peter and St. Paul. The one five-aisled church she possessed—the cathedral—has been entirely destroyed, to make way for a very contemptible modern erection. From the plans, however, which we possess of it, it seems to have differed very considerably from the Roman examples, most especially in having no trace of a transept, the building being a perfectly regular parallelogram, half as long again as its breadth, and with merely one great apse added at the end of the central nave. Its loss is the more to be regretted, as it was, besides being the largest, the oldest church in the city, having been erected about the year 400, by Archbishop Ursus. The baptistery that belonged to it has been fortunately preserved, and will be described hereafter.

Besides a considerable number of other churches, which have either been lost or destroyed by repair, Ravenna still possesses two first class 3-aisled basilicas,—the San Apollinare Nuovo, originally an Arian church, built by Theodoric, king of the Goths (A.D. 493-525); and the S. Apollinare ad Classem, at the Port of Ravenna, situated about 3 miles from the city, commenced A.D. 538, and dedicated 549. They are both similar in plan, in as far at least as their naves are concerned, and apparently so in dimensions.[1]

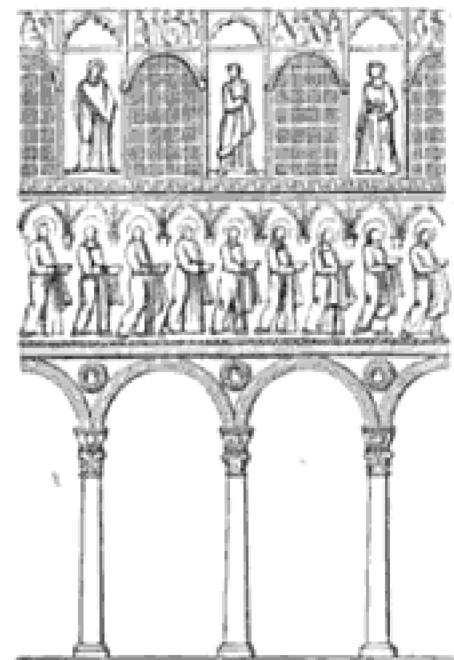
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[1] None of the plans to which I have access have scales: I therefore do not know what the dimensions of these churches are. I may as well mention here that when I assert that plans have no scales, I am not ignorant that, as in this instance, such authors

S. Apollinare Nuovo is now called S. Martino in Cielo d'Oro, from its having been decided in the 12th century that the other church, ad Classem, possessed the true body of the saint to whom both churches were dedicated. As will be seen from the plan, woodcut No. 373, it was a regular basilica, with 12 pillars on each side. It has no transepts, but in their place a rectilinear compartment inserted in front of the apse, which serves the same purpose. This portion seems more like the modern chancel than anything else we know of at so early a date. This feature is not found in the sister church. The great merit of these two basilicas as compared with those of Rome, arises from the circumstance of Ravenna having possessed no ruined temples whose spoils could be used in the construction of new buildings. Consequently the architects being obliged to think for themselves and design every detail, introduced a degree of harmony into their proportions utterly unknown in the Roman examples. From the woodcut No. 374, representing three arches of the nave of S. Apollinare Nuovo, it will be seen that the pillars are pleasingly spaced; their capitals, surmounted by a block representing the architrave, suffice for the support of the arches that spring from them; the triforium belt is adorned with figures, and is of pleasing proportion; and the window over each arch fills up the remaining height to the roof, without either overcrowding or leaving any space that is not easily filled up by the decorations applied. It is true the parts do not all quite harmonize, but it is an immense stride in advance of the Roman style. All this is still more apparent in the next woodcut, taken from the angle where the nave joins the apse in the Apollinare ad Classem, which shows a still further advance towards forming a new style out of the classical elements: a little more and the transition would be almost complete. It is still easy, however, not only to trace the derivation of every detail from the classical



373. Church of S. Apollinare in Classe, Ravenna. From Agincourt. No scale.

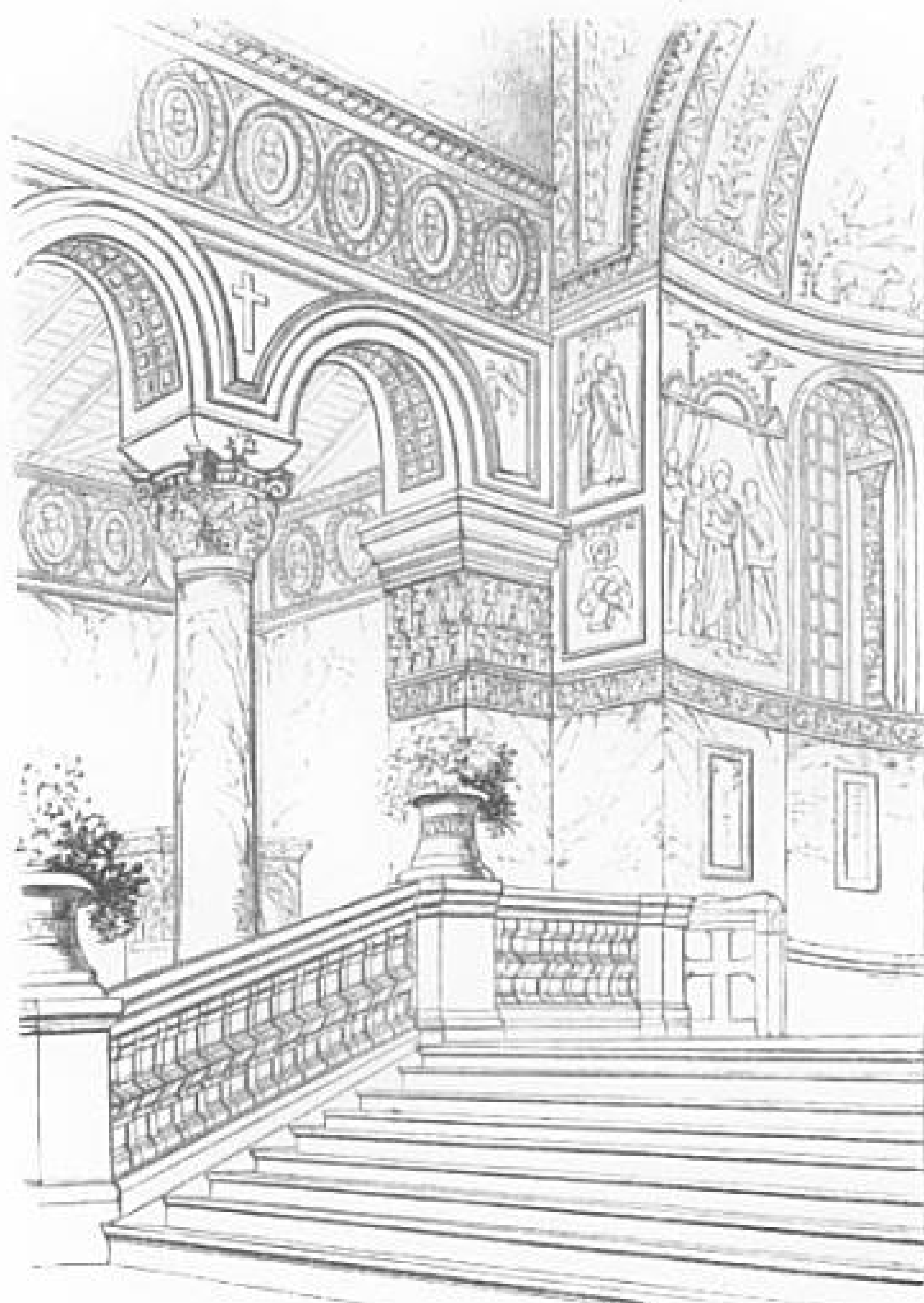


374. Arches in Church of San Apollinare Nuovo. From Quast.[1]

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as Canina, Wiebeking, &c., have copied and enlarged Agincourt's plans, and put scales to them, with the utmost appearance of exactness; but in nine cases out of ten these scales are mere figments of the author's brain.

[1] A. F. von Quast, Die Altchristlichen Bauwerke von Ravenna.



375. Part of Apse in S. Apollinare in Classe, Ravenna. From Quast.



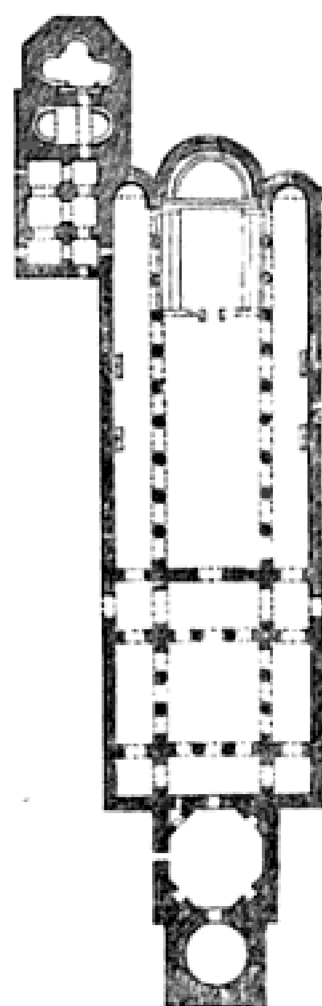
376. S. Apollinare ad Classem, Ravenna. From Quast.

model, but also to see that the architect was trying to adhere to that style as far as his means and his purposes would allow.

Externally these buildings seem to have still remained almost wholly without architectural embellishment. It was considered sufficient to make the brick arches necessary for the construction slightly more prominent and important than was actually required. As if impelled by some feeling of antagonism to the practice of the heathens, the early Christians seem to have tried to make the external appearance of their buildings as unlike those of their predecessors as it was possible. Whether this was the cause or not, it is certain that nothing can well be less ornamental than these exteriors; and even the *narthex*, which in this instance afforded an excellent opportunity for embellishment, could not be less ornamental if it were to lead into a barn instead of a church of such richness and beauty as this one possesses in its internal arrangement.

PARENZO.

At Parenzo in Istria there is a basilica, built in the year 542 by the Bishop Euphrasius, and consequently contemporary with these examples at Ravenna. This church possesses its atrium, baptistery, and other accompaniments, which those at Ravenna have lost. It consists of a basilica in three aisles, with an apse at the end of each, and an atrium in front, beyond which is situated the baptistery; and in front of this again a tower, with a circular chamber in it. On one side at the east end is a chapel or crypt; but it is by no means clear to what age it belongs, and for what purpose it was erected. It seems an excrescence, while all the other parts belong to the original design. It is a little out of the beaten track, and the only illustration of it which we possess is the plan in Agincourt's great work; and there, as is too often the case, it is without scale or dimensions mentioned in the text. As a building of the age of Justinian, and showing the relative position of the various parts that made up an ecclesiastical establishment in these early times, it is singularly deserving of the attention of those to whom the history of art is a matter of interest.



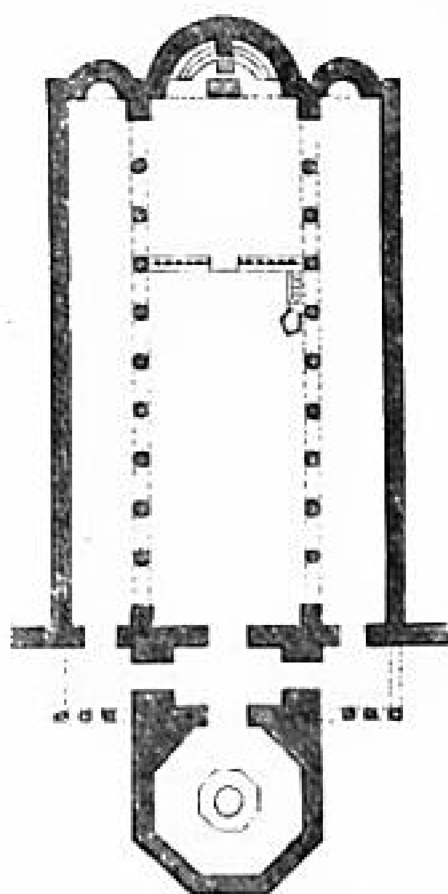
377. Church at Parenzo in Istria. From Agincourt.

TORCELLO.

Scarce less interesting is the basilica of Torcello in the Venetian Lagune, built in the first year of the 11th century.[1] Like Parenzo, it is one of those buildings that neither artists nor architects will look

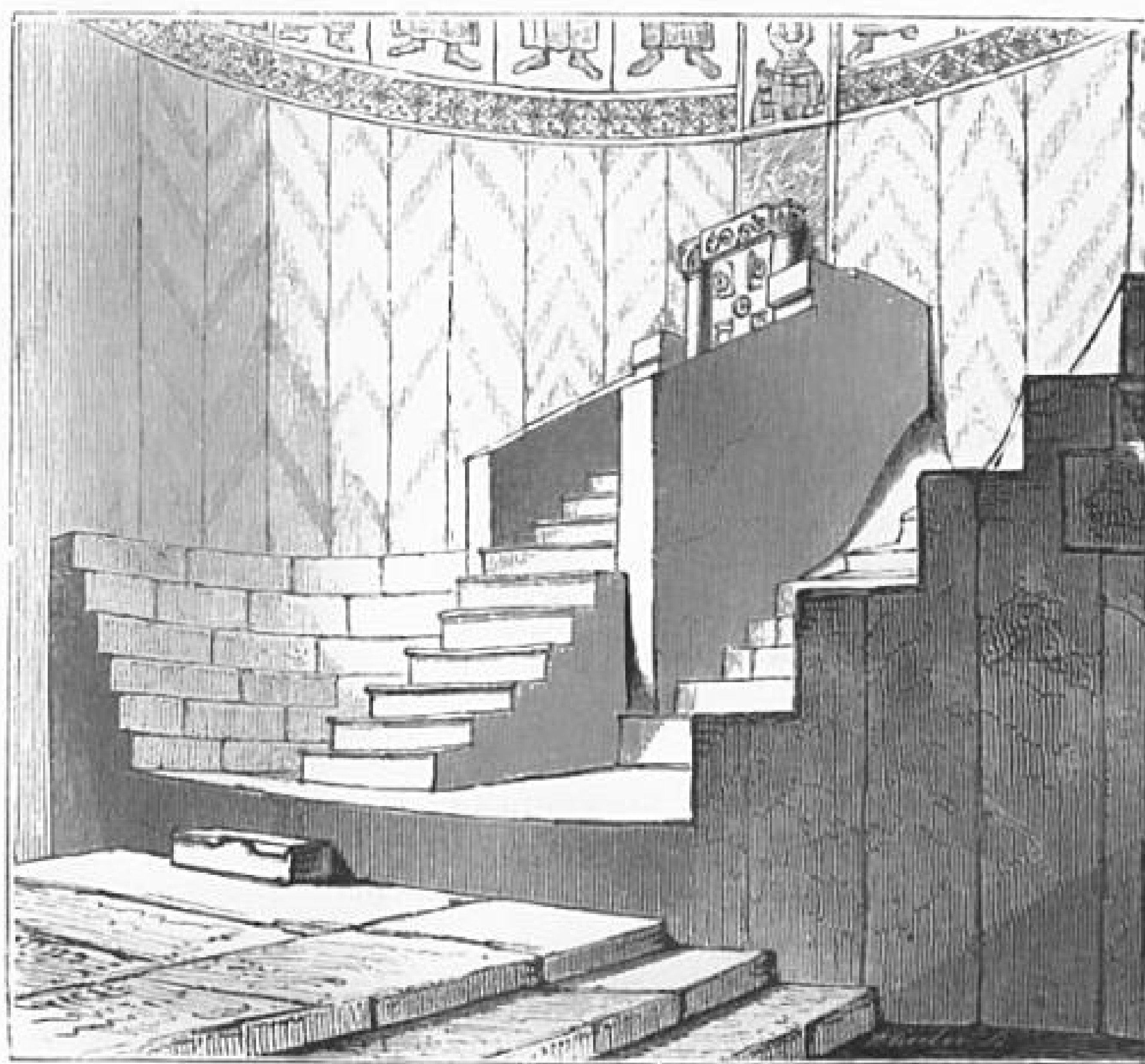
[1] An older church, belonging to the 7th century, existed on the spot where this now stands. It is uncertain how far the present erection takes the form or arrangement of the older edifice.

at. No church, however, of its age, probably possesses in such perfection the basilican arrangement as this, at least at so late an age. As will be seen from the woodcut No. 378 (from Agincourt's work), it is a simple basilica, with 9 pillars on each side of the nave, and 3 apses; the two smaller on each side of the larger one being the only thing that can be called an innovation on the old arrangement. Its most striking peculiarity, however, is the position of the baptistery, which, instead of being separated from the church by an atrium, as was usually the case, is only divided from it by a narrow passage. It is evident that it only required one slight step further to convert this into a double apse cathedral such as are found so commonly in Germany.



378. Plan of Church at Torcello, From Agincourt. No scale.

The most interesting part of this church is the interior of its apse, which still retains the bishop's throne, surrounded by 6 ranges of seats for his presbytery, arranged like those of an ancient theatre. It presents one of the most extensive and best preserved examples of the fittings of the apse, and gives a better idea of the mode in which the apses of churches were originally



379. Apse of Basilica at Torcello.

arranged, than anything that is to be found in any other church, either of its age or of an earlier period.

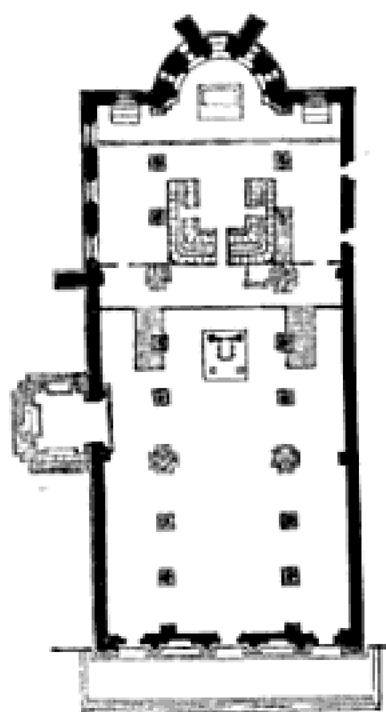
The architectural history of Italy is nearly a blank during the four centuries that elapsed between the building of the basilicas of Parenzo and Torcello. This is only too easily to be accounted for from the irruption of the barbarians, and the troubled state of all political relations during these truly dark ages. This may account for the style reappearing at Torcello with so little change from what is found at Ravenna and Parenzo, after so long a lapse of time, and side by side with the celebrated church of St. Mark's, of Venice, which alone of all Italian churches can fairly be called a direct importation from the East. Still we should by no means despair of being able to fill up the gap to a considerable extent from among the smaller and more obscure churches of towns lining the shores of the Adriatic; no systematic survey has yet been attempted for this purpose, and the slight glimpses of knowledge that we here and there possess, serve only to indicate the permanence of the forms throughout the whole of that dark period.

CHAPTER III.

LATER ROMANESQUE.

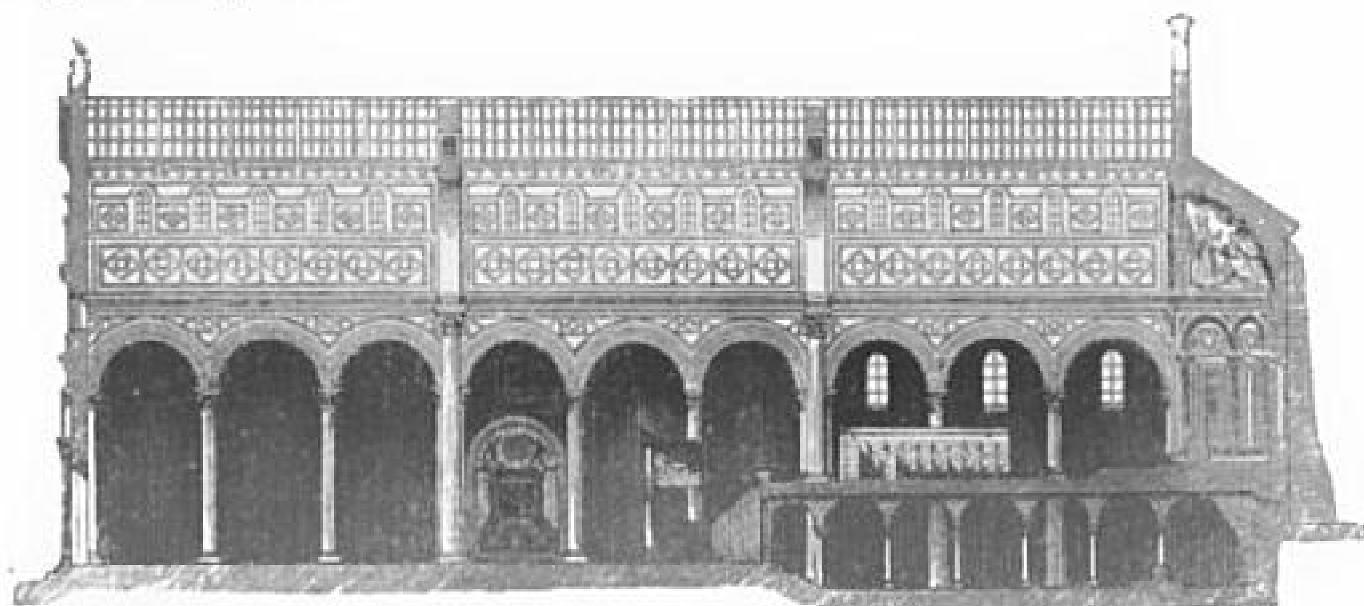
On turning to the other side of Italy, we find no city like Ravenna that took up the style within the first few centuries after the age of Constantine, so as to enable us to connect the past with the more certain traces of the middle ages. Florence was then, it is true, a city, and no doubt possessed churches; but they were small as compared with those on the east coast, and during her time of greatest prosperity, which was long afterwards, these ancient churches were all rebuilt, or so repaired as to leave scarcely a trace of their original forms. Hence the history of Romanesque architecture hardly begins on this side of Italy before the 11th century. At this period of returning prosperity, we find several churches of great beauty and importance retaining all the peculiarities of the true Romanesque style, with only so slight a trace of Gothic feeling as merely to show that in the interval the Lombards had penetrated to these shores, and left an impress of their existence there, but so slight as soon to be obliterated by the older civilisation which the new was then incapable of superseding.

Of these churches, one of the most beautiful as well as most perfect specimens is that of S. Miniato, near Florence, a small basilica without transepts, commenced in the year 1013, and therefore, as nearly as may be, contemporary with the Duomo at Torcello. Internally it is only 165 ft. by 70 in breadth, divided into three aisles, and longitudinally into three compartments, by clustered piers supporting two great arches which span the nave and aisles. This coupling of the piers is the only real Gothicism in the building, and is one of the very earliest instances of a practice which afterwards became so important an element in the new style of art, by giving the power of using piers of any required degree of solidity, combined at the same time with almost as much appearance of lightness as a single shaft would possess. The arches that span the nave may also be considered as a first timid attempt at vaulting the nave. It is true, the same thing had been attempted in Rome, in the Sta. Praxede, two centuries earlier, but so clumsily that it was at once abandoned. Here, by a little contraction of the pier arches and the introduction of another compound pier, the roof would have been divided into 3



380. Plan of San Miniato, Florence. From Gailhabaud's Monumens Anciens et Modernes.
Scale 100 ft. to 1 in.

squares, which a bold builder would willingly have undertaken to vault, a task which was undertaken and accomplished before the century had expired.



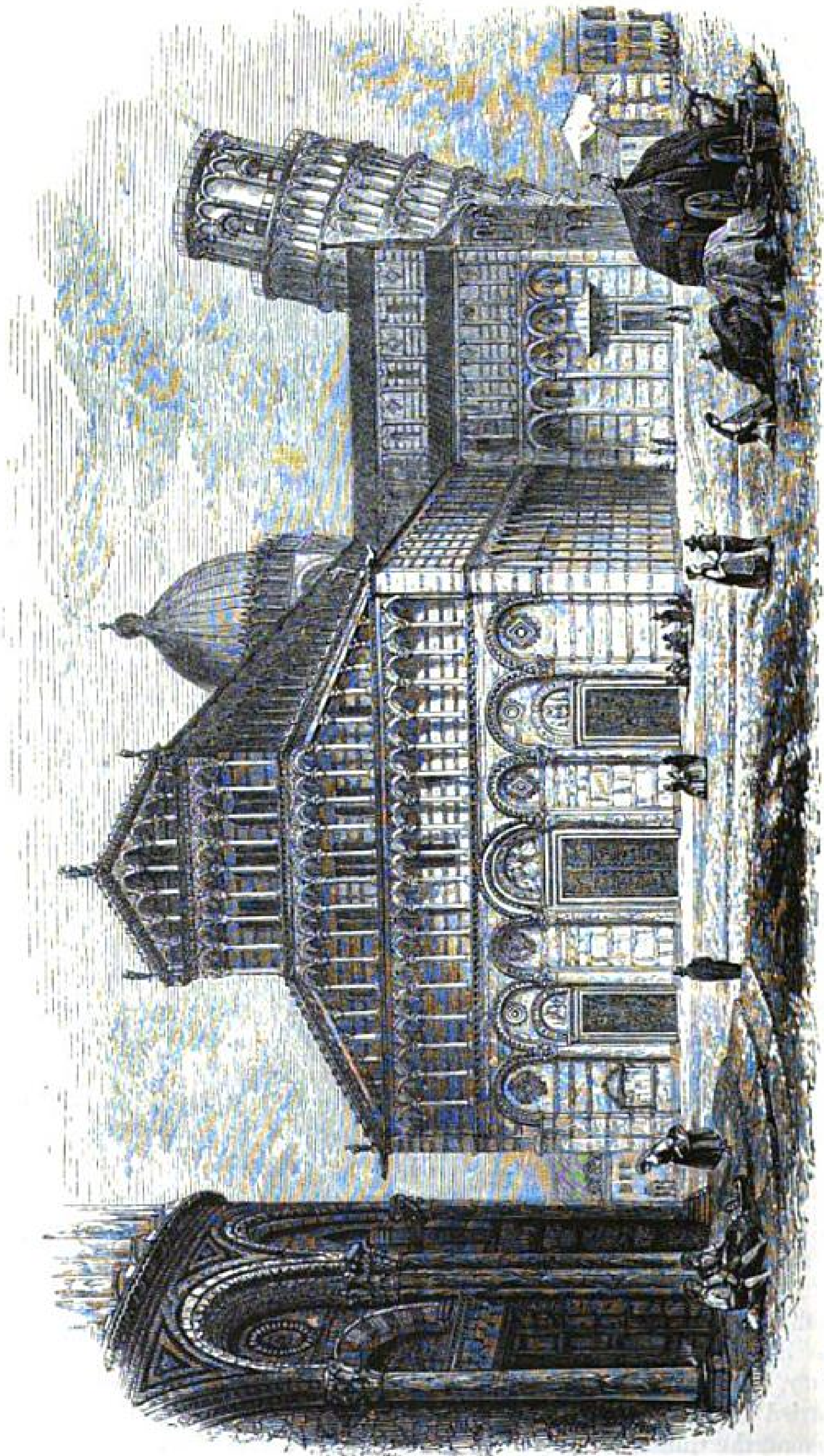
381. Section of San Miniato, near Florence. From Gailhabaud. Scale 50 ft. to 1 in.

One of the striking peculiarities of this church is the immense crypt, which occupies the whole of the inner division, and forms virtually a second church, or rather second choir, the one under the other. It can hardly be doubted that this arose from its being a conventual church, and from the desire of having the choir of the ecclesiastics wholly separated from that to which the laity were admitted. It was, perhaps, a better mode than that of screening off a great part of the edifice, which was the method afterwards adopted. The great charm of this church is the elegance of its proportions and the beauty of its decorations, which go far to weaken the dogma that Gothic is the only style which can produce a perfect ecclesiastical interior. There is a purity and beauty of proportion about this small church which is not to be found at Rome in the greater basilicas, which no church in Ravenna had reached, and perhaps no earlier example had then attained to.

Pisa Cathedral.

Just half a century after San Miniato, the celebrated cathedral of Pisa was commenced, certainly one of the finest and most complete churches in this part of Italy, and the typical example of a style that arose here out of the classical during the dark ages. In spite of the admiration sometimes lavished upon this style, one cannot regret that after existing a couple of centuries it was again abandoned, without ever having extended beyond the province where it was first introduced.

In plan the cathedral shows a considerable tendency towards Gothic forms, inasmuch as the transepts extend considerably beyond the line of the nave; and we find that extension of the apse into a choir, which we first remarked in S. Apollinare Nuovo at Ravenna, carried here much further, almost to the extent of an inner church beyond the transept. Notwithstanding this modification, however, it is still a five-aisled basilica with the aisles vaulted, and a flat wooden



382. View of the Cathedral at Pisa. From Chapuy's Moyen Age Monumental.

roof covering the nave, and of considerable dimensions, the width of the nave being 106 ft., the total internal length 310, and its area about 42,000, which is under the average of mediæval cathedrals.

Its internal architecture hardly differs from that of the Roman examples, except in the introduction of bold and well-defined triforium galleries over the pier arches, which removed one of the principal difficulties of the style as practised in earlier examples, but at the expense of so much space lost for the higher description of painting; so that, though we may now praise the change, it is doubtful how far it was an improvement in the middle ages. It is easier, however, in barbarous ages, to find builders than historic painters, and the tendency to this is observed everywhere.

This church is more remarkable for its external than for its internal architecture; every part of its exterior showing an extraordinary exuberance of ornament, considering how completely that had been neglected in all previous examples. Here the balance is not only restored, but the architect has perhaps erred on the other side in making so much of a decoration which is no part of the construction, and to which no conceivable meaning can be assigned. It still remains to trace the steps by which this mode of decoration reached the completeness in which we find it here—San Frediano of Lucca is the only older authentic example known, and that differing in no essential respect from this; but it is not difficult to see that the motive was to reproduce the effect of a Roman or Grecian peristylar temple with that multiplicity of small parts which was then in vogue. Nothing, however, in modern times, can equal the absurdity of the number of false arches and pilasters which are here used, and those who criticise severely the two orders of our St. Paul's should turn to the five orders of this façade, with their little arches and unmeaning gables. One arcade over the entrance and one following the slope of the roof are admissible, and are often used in Italy in this age with the most pleasing effect; but the piling four, one over another, as is here found, merely to hide the walls and windows, and the excessive awkwardness with which it is tried to adapt them to the slope of the roof, make up an architectural composition as clumsy as any ever attempted on the same scale, and which even the elegance of the parts and the profusion of ornament fail entirely to redeem.

The flanks of the building are better, as the arches and pilasters there are avowedly mere ornaments, and serve to divide and frame the windows, which they neither hide nor interfere with. But the most pleasing part is certainly the apse, where the three orders are well proportioned to one another, and, though this has been accomplished by cutting the upper one short, the round form and the shadow thus attained are far from unpleasing. The pilasters, however, that flank it and cover the transepts again produce the flat unmeaningness which is the great defect of the building.

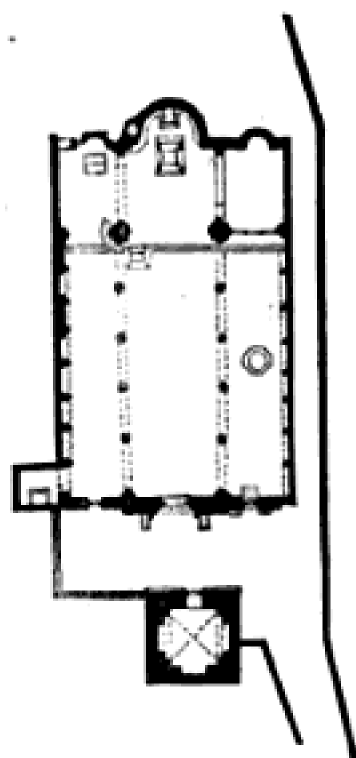
One of the best features of its details is the quantity of colour used on the exterior, as an elegant and pleasing mosaic, which has given rise to this building being most absurdly called Byzantine—the truth

being that colour in these early ages of the art was a more common external decoration than form. All the Roman basilicas were adorned —on their façades at least—with historical paintings or mosaics of figures and emblems on the flat surfaces which they now present to us. The peculiarity of the age at which we are arrived is that the architects were obliged to adopt to a great extent mere mechanical mosaic decoration in lieu of the higher class before used. Even this, however, was found afterwards to be more difficult than sculptural forms, which in consequence eventually prevailed everywhere.

A more pleasing example of this style is to be found in the church of S. Michele at Lucca. This church, being somewhat later than the cathedral of Pisa, is free from many of the faults of that building. Besides this, the faults which it possesses are less glaring, owing to its comparatively small size. It has no pilasters nor any projection less than a half or three-quarter column, and every one supports its little arch—thus giving great unity to the whole design; while the exuberance of the ornament with which every part is covered, and the general elegance of every detail, render it singularly fascinating as an architectural picture, though this repetition of columns and arches might be offensive on a larger scale. As an architectural design it must be regarded as a mere sham—a building decorated without meaning or object, and though avoiding many of the faults of the Pisan cathedral, still as one of the most false and unmeaning buildings of the middle ages.

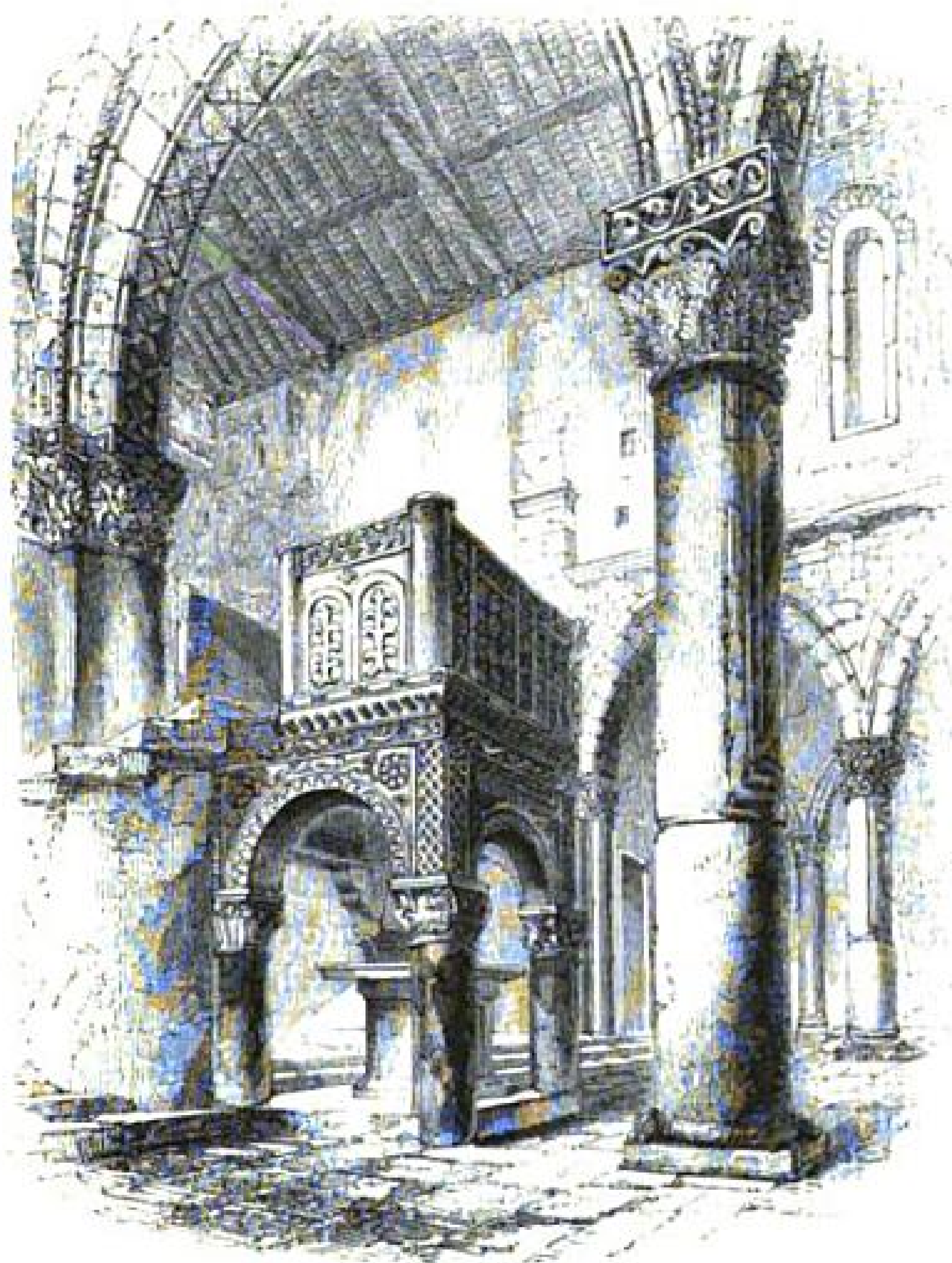
Toscanella.

At Toscanella, near Viterbo, there are two churches, which at present constitute a group apart, though there are no doubt many other similar ones which have not yet attracted the attention of travellers. Besides the intrinsic beauty of their design and details they possess an interest as being among the latest specimens of the Romanesque style, showing what it might have reached in Rome and elsewhere had not the fatal facility of obtaining ancient columns tempted the architects to adapt these rather than work from designs of their own. The plan of one of these, the church of Sta. Maria, is given in woodcut No. 383, and a view of part of the interior in the following woodcut.

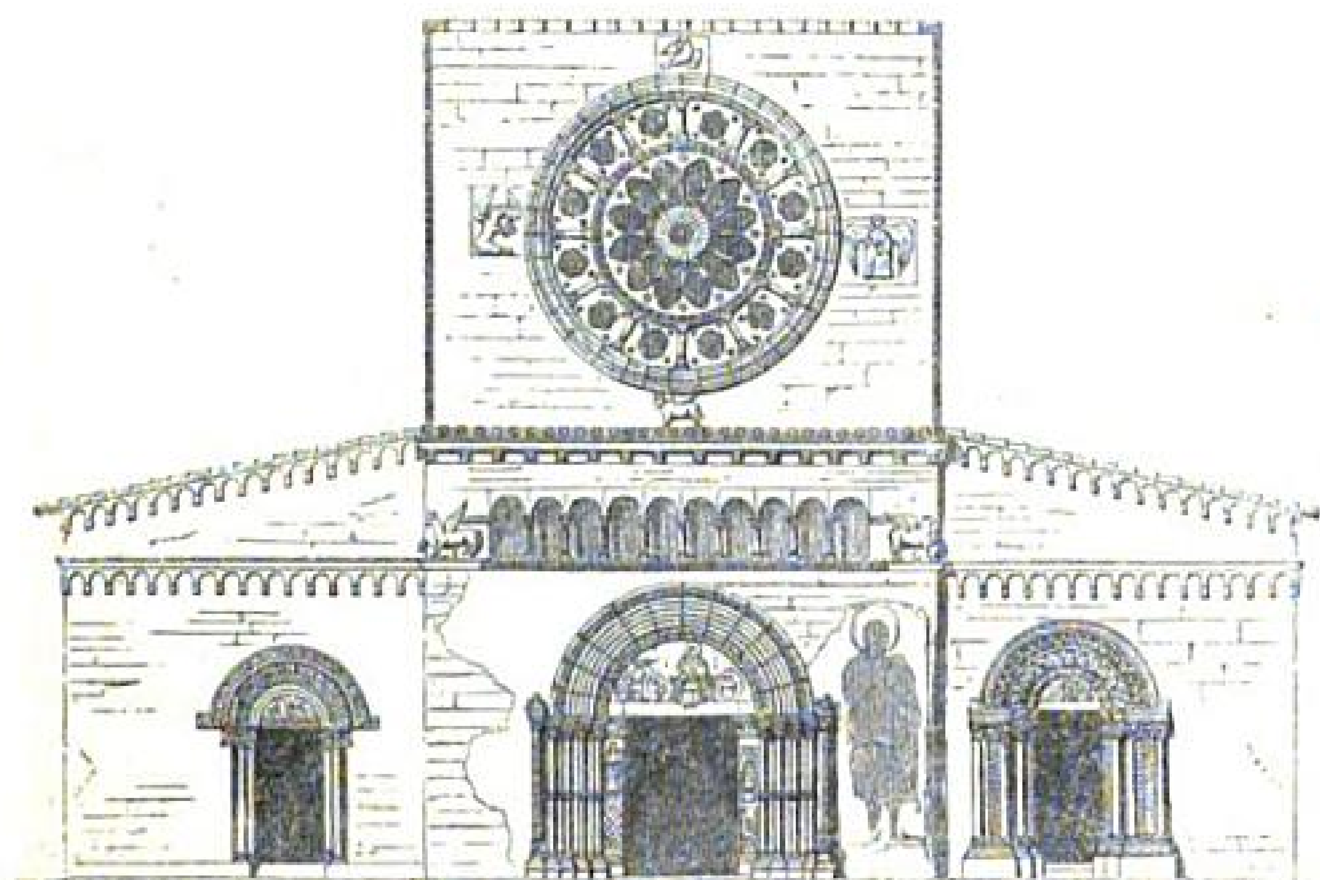


383. Plan of Sta. Maria, Toscanella. From Gailhabaud.
Scale 100 ft. to 1 in.

So little change took place in the style in the proximity of Rome, that the interior of Sta. Maria is generally ascribed to the 6th century, though it certainly belongs to the beginning of the 13th, being one of the numerous examples showing how necessary it is to take into account locality as well as style in determining the age of a building. The pillars still retain a resemblance to the Corinthian order, except that they are far thicker, being well proportioned both in the shaft and capital to



384. View of the Interior of Sta. Maria, Toscanella. From Gailhabaud.



385. Elevation of the Exterior of Sta. Maria, Toscanella. From Gailhabaud. No scale.

the load they have to bear. The arches too are wide and bold, and decorated with mouldings as essentially Gothic as could be tolerated so near to Rome, and the whole shows the Romanesque as complete and independent as it ever became. It is possible that it may never have been capable of the development of the Gothic, but there is certainly something elegant and pleasing in it as shown here. The façade (woodcut No. 385), though of about the same age as the interior, shows considerably more Gothic feeling. Perhaps it is somewhat too plain as it at present stands, but it can hardly be doubted that it originally depended in a great measure on painting for its adornment, some traces of which still remain on its walls. Its three doorways are rich and beautiful, and the single arcade over the central one pleasing and appropriate, while the great central circular window, though filled with imperfect tracery, is still a fine and bold feature in the design; and when the pediment which crowned the summit of it was preserved, the whole must have made up a composition of great merit.

The exterior of San Pietro (the cathedral) is in outline almost identical with this, but, being at least a century more modern, all that was ornamented by painting at Sta. Maria's is here repeated in relief, so that it now presents the more pleasing and richer design of the two. Its details are inferior in beauty, and it is perhaps a little open to the reproach of being overdone with ornament, but in this respect, as indeed in every other, it is infinitely to be preferred to the examples from Pisa and Lucca of which we have spoken. Every part here is appropriate, and has a distinct and positive meaning, and is as unobjectionable in taste as it is in design.

We should be justified in asserting that this form of façade must have been very common before the 16th century, from its being the one almost universally adopted by the Renaissance architects, and which Palladio and his followers have thoroughly made their own. The great Roman orders, however, which they substituted for the delicate details of this façade, are a singular instance of the perversion of taste that took place at that age, and which marred a style which then bade fair to become one of singular beauty and elegance.

It would be easy to adduce many more examples of the Romanesque style if our limits allowed it, but even then the probability is that not more than half the examples that still adorn Italy would be mentioned. For wherever the Northern barbarians on the one hand, and the Saracens on the other, did not penetrate and settle themselves, there this style, and this style only, could be practised, with an admixture of Byzantine perhaps on the east coast of Apulia; but at Naples and all round its beautiful bay, and thence to Capua, and from thence to Rome, every church must have been Romanesque. These may now be disfigured with whitewash and repairs, but many beautiful specimens still no doubt remain to reward the intelligent investigator; and a work written expressly upon this style would restore to science one of the most interesting, if not the most beautiful, forms of the art, and one which, notwithstanding some glaring defects, has not, I feel con-

vinced, been yet fairly judged or appreciated. It never had a fair chance in Rome, owing to the richness of that city in old materials. Ravenna sunk into insignificance before she had time to work it out. Florence and Pisa fell beneath barbarian influence long before they had fairly settled down to the task; and such isolated examples as those of Torcello, Toscanella, &c. show rather what the direction of the style was than illustrate what might have been attained by any great and continuous effort to render it complete. Still even in Rome itself the basilicas possess beauties that it is not easy to rival. Their great naves, 80 ft. in width, lined on each side by noble ranges of pillars opening to side aisles, either with a second colonnade or a wall covered with frescoes, and leading direct to the noble semicircular apse covered with mosaics, presented an *ensemble* more purpose-like and complete than any Gothic cathedral ever displayed. It is true a vaulted roof was impossible with such spacious dimensions: but is a stone roof really an indispensable requisite for internal beauty? May not wood and metal, properly used, be allowed sometimes to supply its place? No one will deny the beauty of the Gothic vault; but when we consider the *tours de force* required to suspend it in the air, and how much, both internally and externally, was sacrificed to obtain it, we may perhaps be permitted to ask if it really is an unmixed triumph. But whether so or not, all Gothic cathedrals fail in having the principal point of grandeur half-way down the church at the intersection with the transepts, beyond which the interest again declines to the east end. Sta. Maria del Fiore at Florence avoids this bathos, and the first design of St. Peter's caught the idea, though it was somewhat spoiled in the execution. Our St. Paul's has the egregious defect of a vestibule 110 ft. in diameter leading to a little choir less than 40 ft., and so with most cathedrals; but nowhere was this avoided by such simple means and so effectually as in the basilicas. The long colonnade gave length and perspective effect. The transept gave dignity, and if a flood of light was admitted at each end of it, it must also have given great splendour to the apse and its altar—to the objects in fact for which the church was built, and to which every other part of the architectural design was and ought to be subordinate. It would have been better, no doubt, if a great dome had covered the square in front of the apse where the altar stood. It was this that the Byzantine architects aimed at and accomplished, and it was the one happy inspiration of the Renaissance architects. It would have, however, required more constructive skill than the architects of Rome possessed in the age of Constantine or of his successors. By attention to these principles it would be practicable now to build a better basilica than has yet been built; but still the old examples possess beauties well worthy of the most careful study of those who would find out where the secret of architectural beauty has been so long hidden from modern eyes.

CHAPTER IV.

CIRCULAR CHURCHES.

CONTENTS.

Circular Churches — Tomb of Sta. Costanza — Churches at Perugia, Nocera, Ravenna, Milan.

Although the early Christian architects used the circular form of building, which they derived from the Romans, almost as frequently as the rectangular, still they never attempted it on the same scale, nor made it so essentially their architectural form as the basilican became, and it was left for the Byzantine architects of the age of Justinian to carry this form to the greatest degree of perfection which it ever reached, at any rate previous to the time of the Renaissance. Notwithstanding this, there are still some very remarkable and beautiful Romanesque circular buildings, and which contain at least the germ of all that was afterwards done in this direction.

In speaking of them it is necessary to bear in mind what I have before pointed out, that the basilica was the place of assembly of the infant Christian republic—the ecclesia of the faithful. The circular building, properly called the church or kirk,[1] was the sacramental temple—not a place of assembly, but the place for the initiation into the sacred mysteries, or for the performance of the more sacred rites of the Church.

It has been already pointed out how all those nations who derived their tombs from the Tartar, not from the Egyptian, type adopted the circular form wherever such was practicable, and how more especially this was done by the Etruscans, and from them adopted by the Romans, from whom again the early Christians took it almost universally; and if not all, certainly the greater part of the earliest circular Christian buildings were tombs, or meant originally to be such, though this was afterwards modified to a very considerable extent.

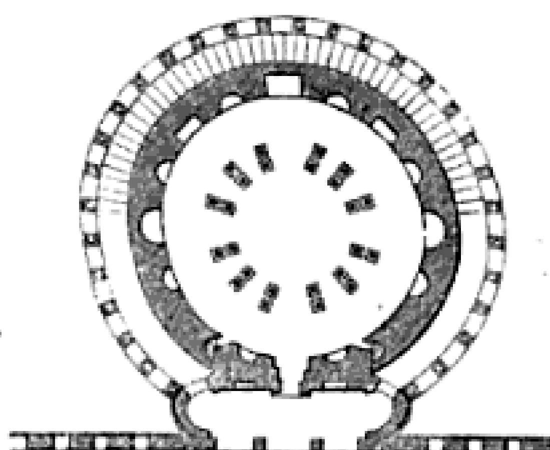
We have certainly three circular buildings of the age of Constantine, differing from one another, and containing in themselves the types of all subsequent modifications. The earliest of them probably is the sepulchre of his mother Helena, who died A.D. 328. This tomb has been already described, and an elevation and section of it given.[2]

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[1] I believe the word kirk, common to all Teutonic languages, to be derived from the word circulus or cirque, Teutonic kirk.

[2] See p. 344, woodcut No. 282.

The two tombs that stood in the spina of the circus of Nero, where St. Peter suffered martyrdom, were, as shown in the plan (woodcut No. 368), identical with this one, both in form and dimensions, and I feel convinced owed their erection to the same prince who raised this memorial to the memory of his mother.



386. Plan of the Tomb of Sta. Costanza, Rome. From Isabelle, Edifices Circulaires. Scale 100 ft. to 1 in.

The next monument was that which he raised as a tomb for his daughter Constantia, now known as the baptistery of Sta. Agnese, and probably used as such from its foundation. It differs from all previous tumular arrangements, inasmuch as the interior, though only 73 ft. in diameter, is adorned by a double range of columns supporting arches, on which rises the drum or circular part supporting the dome, which is pierced with a clerestory of 12 windows; the lower part is surrounded by a circular vaulted aisle, covered even at the present day with its original fresco paintings, which are still so Roman in their character as to have induced the belief, long maintained, that this building was a heathen temple. Its form, however, and the sarcophagus of the princess, found in one of the twelve niches that surround the aisle, more than suffice to prove this opinion erroneous, and to assign to the building its true character.

In front of this building was an oblong space with circular ends, and surrounded on all sides by arcades; its dimensions were 535 ft. by 130, and though so ruined as hardly to allow of its arrangements being now restored, it is interesting, as being perhaps the only instance of the "*forum*," which it is probable was left before all tombs in those times, and traces of which may perhaps be found elsewhere, though as yet they have not been looked for.

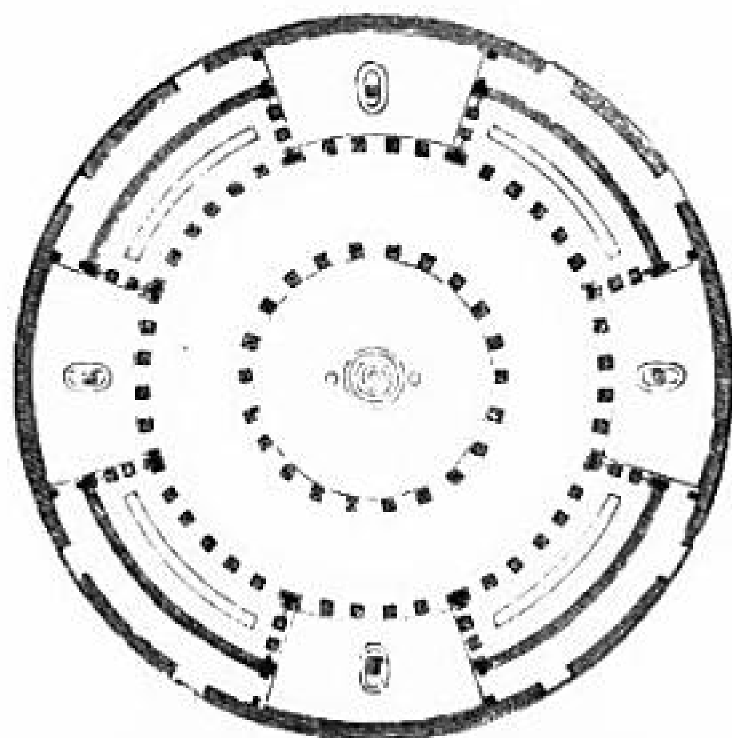
The third building of this age is the Lateran baptistery, generally called the tomb of Constantine, and sometimes said to have been a tomb built by him. It is very inferior to the other two in every respect. In plan it is an octagon, only 65 ft. in diameter, in the centre of which stand eight pillars, connected the one with the other by a very attenuated entablature; on their heads stand eight smaller pillars, which support the roof.[1] As no part of this is vaulted, the walls and pillars are thin and lean compared with other examples; and, indeed, the whole bears the stamp of this decadence more distinctly than any other building of its age. It has, however, been so much altered in modern times, that it is difficult to speak with certainty of it; and it may have had redeeming features, which we cannot now discern.

The only other important circular building within the walls of

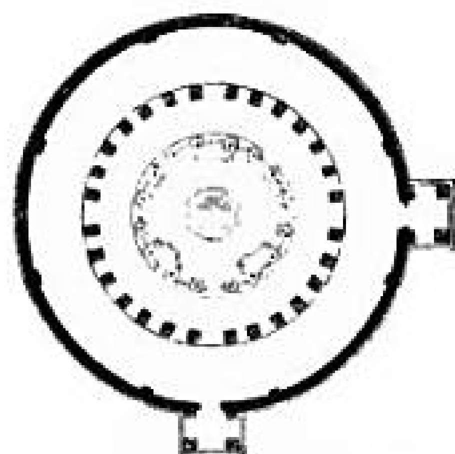
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[1] The architecture of this building would be extremely similar to that of Diocletian's Temple of Jupiter at Spalatro (p. 313) if the pillars there were removed a little way from the wall instead of being attached to it.

Rome of this early age is that known as S. Stephano Rotondo. Though there is nothing to fix its date with any precision, it is almost certain that it belongs to the 5th and 6th centuries of the Christian era. It is 210 ft. in diameter, and its roof was supported by two ranges of columns, circularly disposed in its interior; the first or inner range supporting a horizontal architrave like that of St. Peter. In the outer one the pillars support arches like those of St. Paul's. All the pillars are taken from older buildings. The outer aisle was divided into eight compartments; but in what manner, and for what purpose, it is not now easy to ascertain, owing to the very ruined state of the building. Nor can it be determined exactly how it was roofed; though it is probable that its arrangements were identical with those of the great five-aisled basilicas, which it closely resembles, except in its circular shape.

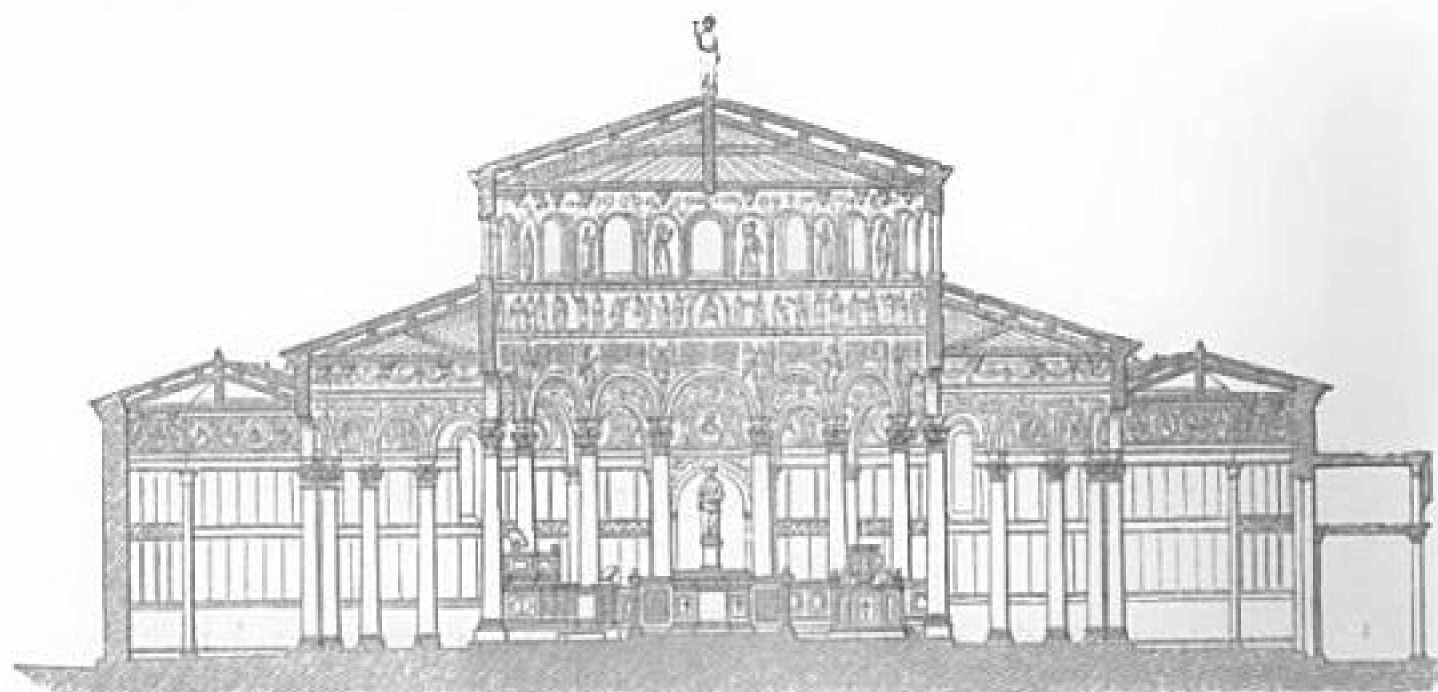


387. Plan of San Stephano Rotondo. From Gutensohn and Knapp. Scale 100 ft. to 1 in.



388. Sti. Angeli, Perugia. From Isabelle. Scale 100 ft. to 1 in.

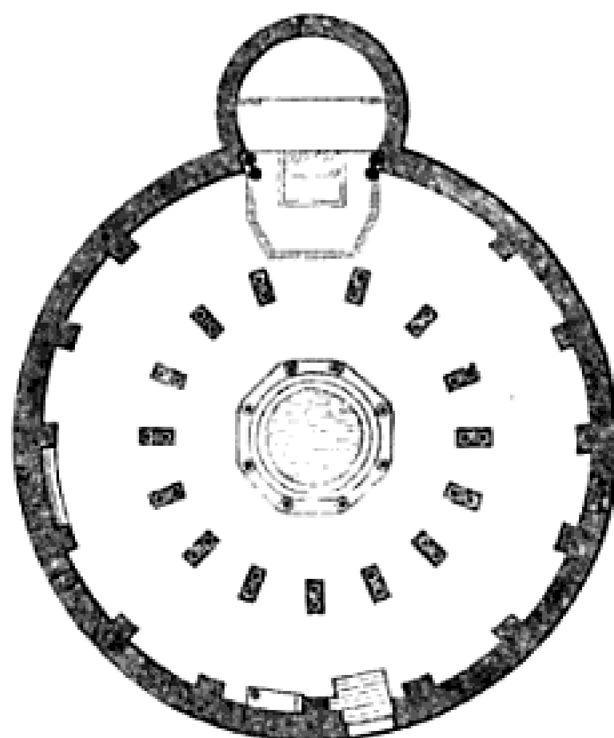
This is more clear in another church of the same age, that of Sti. Angeli, at Perugia, which is very similar in disposition. Of this building a section is here shown, as given by M. Isabelle—perhaps not quite to be depended upon in every respect, but still a very fair representation of what the arrangements of the circular wooden-roofed churches were. Its dimensions are less than those of



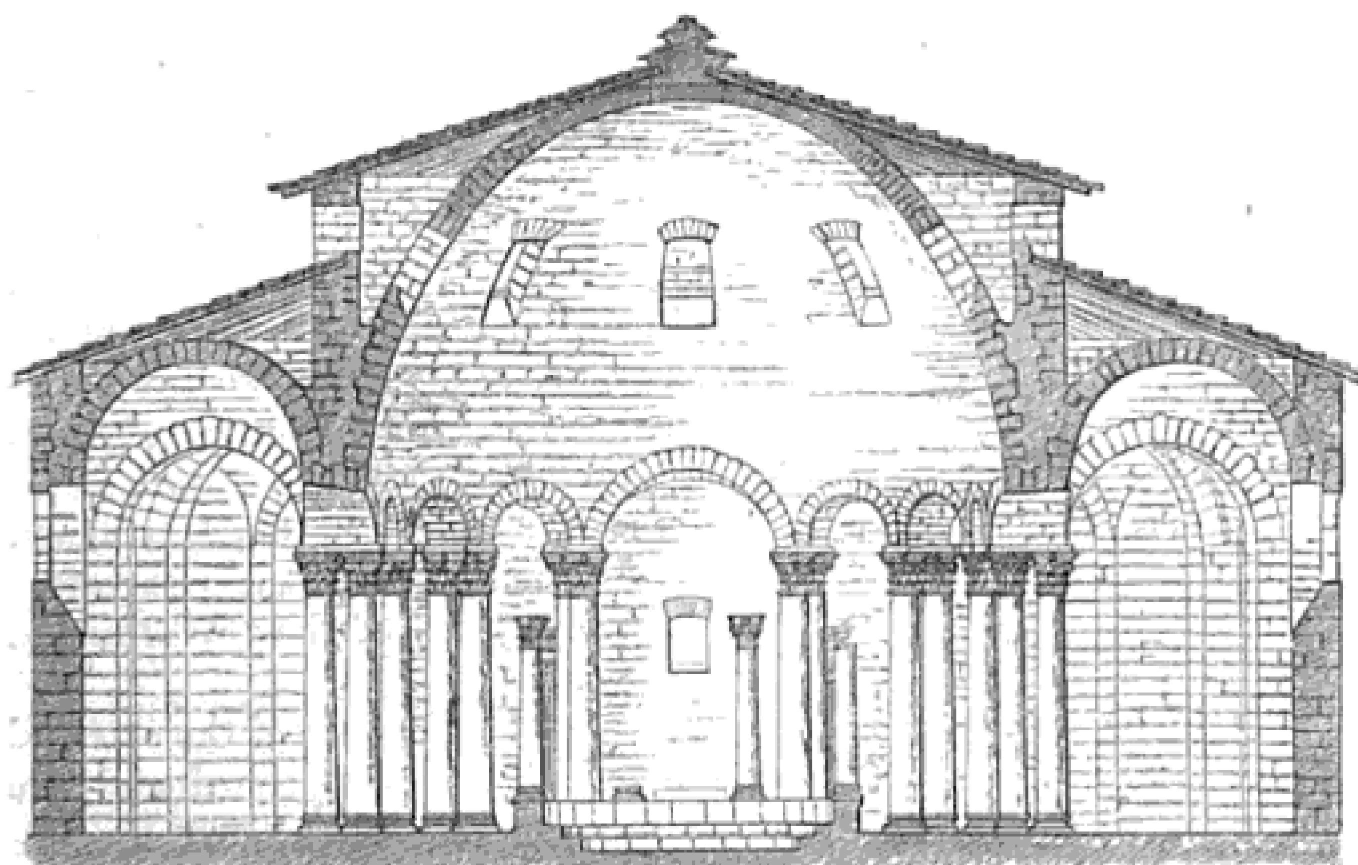
389. Sti. Angeli, Perugia. From Isabelle, Edifices Circulaires.

San Stephano, being only 115 ft. in diameter; but it is more regular, the greater part of its materials being apparently original, and made for the place they occupy. In the church of San Stephano, the tomb-shaped circular form was probably used as symbolical of his martyrdom. That at Perugia was probably originally a baptistery, or may have been dedicated also to some martyr; but in the heart of Etruria this form may have been adopted for other reasons, the force of which we are hardly able at present to appreciate, though in all cases locality is one of the strongest influencing powers as far as architectural forms are concerned.

At Nocera dei Pagani, on the road between Rome and Naples, there is an extremely beautiful circular church, built undoubtedly for the purpose of a baptistery, and very similar to the tomb of Constantia, known as St. Agnese, in plan and general arrangement. It is somewhat larger, being 80 ft. in diameter. Its principal merit is the form of its dome, which is singularly graceful internally. On the exterior it shows a peculiarity which it is well worth while noting, as this is perhaps the earliest instance known of a practice that afterwards became universal, and, indeed, the prime motive of the Gothic styles—I allude to the practice of covering the vaults of buildings with wooden roofs. Notwithstanding its being so general, and our familiarity with it being so great, that we



390. Baptistery at Nocera dei Pagani. Scale 50 ft. to 1 in.



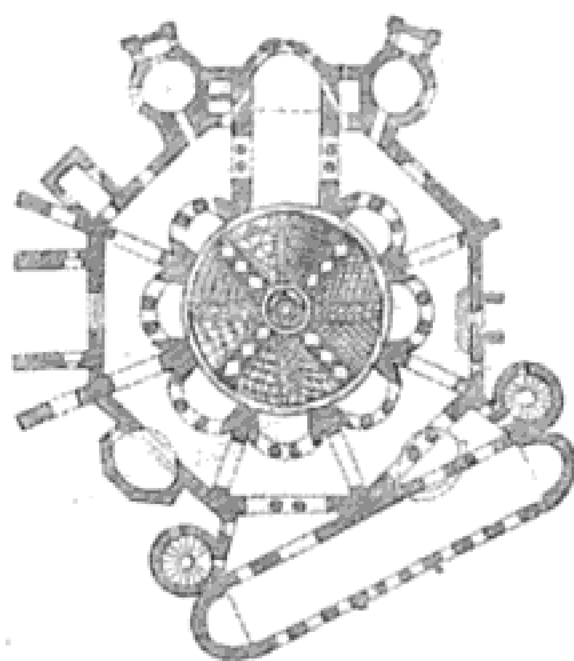
391. Baptistery at Nocera dei Pagani. From Isabelle, Edifices Circulaires.

have learned to think it no blemish, there cannot be a practice more destructive of true architectural effect, and what is worse, of true building stability. All vaults after this age became mere false ceilings, unseen externally, and depending for their existence on the maintenance of a very frail wooden covering. It may have been difficult to make naked vaults and domes proof against the weather. Still it was done before, and is done by the Saracenic architects to the present day; but the Gothic architects could not or would not do it. We here find within a century of the time of Constantine the opposite practice commenced, and except in the rarest possible instances, we must look for no more true roofs in Europe even to the present day.

Ravenna.

Ravenna possesses several circular buildings, almost as interesting as those of the capital; the first being the baptistery of St. John, belonging to the original basilica, and consequently one of the oldest Christian buildings of the place. Externally it is a plain octagonal building, 40 ft. in diameter. Internally it still retains its original decorations, which are singularly elegant and pleasing. Its design is somewhat like that of the temple at Spalatro, but with arcades substituted everywhere for horizontal architraves; the century that elapsed between these two epochs having sufficed to complete the transition between the two styles.

Far more interesting than this is the great church of St. Vitale, the most complicated, and at the same time, perhaps, the most beautiful of the circular churches of that age. In design it is nearly identical with the Minerva Medica at Rome,[1] except that this is an octagon instead of a decagon, and that it is wholly enclosed by an octagonal wall, whereas the Roman example has besides two curvilinear wings, enclosing its sides. There are also some minor alterations, such as the introduction of galleries, and the prominence given to the choir; but still nothing at all to justify the title of Byzantine, usually applied to this church. It is in reality a bad copy from a building in Rome, and very unlike any building in the East we are acquainted with, though no doubt there are certain forms of similarity, as indeed must be found in all the buildings of the age before the final separation of the two churches took place.

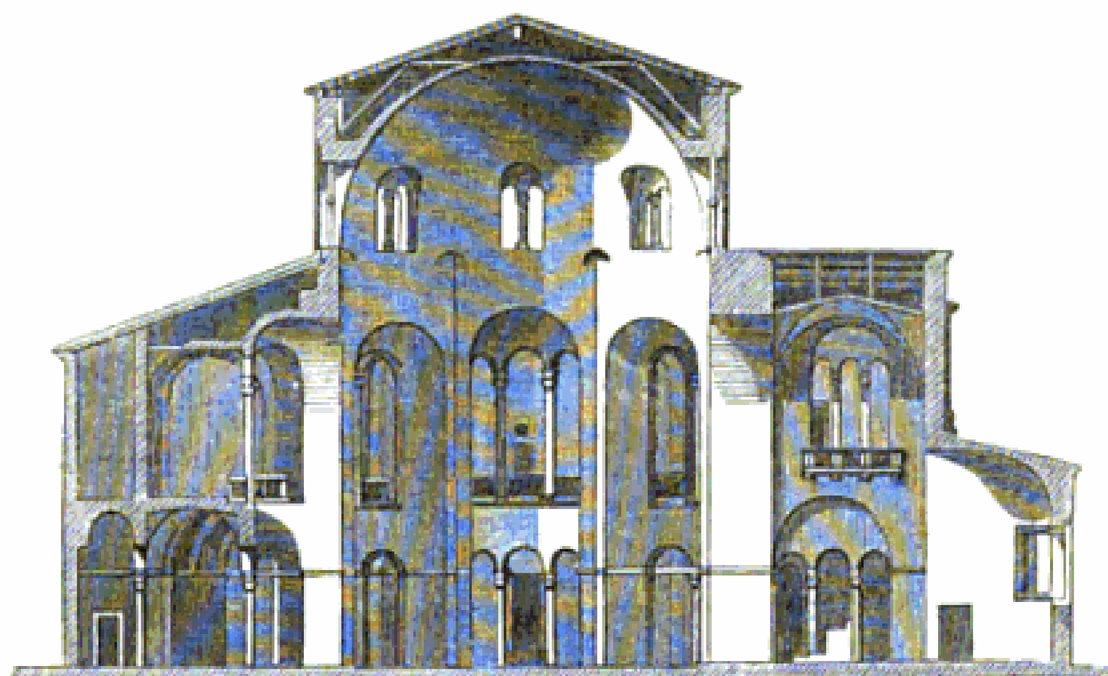


392. Plan of St. Vitale, Ravenna. From Isabelle.

As will be seen from the annexed plan, the diameter of the external octagon is 110 ft., of the internal one only 50, so that the dome here

[1] See p. 345.

is a third less than that of its prototype, and so completely had the architects degenerated from the dome-builders of Rome, that instead of the scientific construction of the Minerva Medica, this is wholly composed of earthen pots, and protected by a wooden roof. It is true these pots have been used in the East for domes and roofs from the earliest ages, and form as stable and as permanent a mode of covering as stone itself, and might easily be so used as to surpass the heavier material for this purpose. But such is not the case here; and though it is hard to blame what has stood the wear and tear of thirteen centuries, and seen the fall of so many of its younger and more aspiring rivals, still the construction of this dome serves to show how excellent the expedient is, rather than how it should best be applied.



393. Section of St. Vitale, Ravenna. From Isabelle. Scale 50 ft. to 1 in.

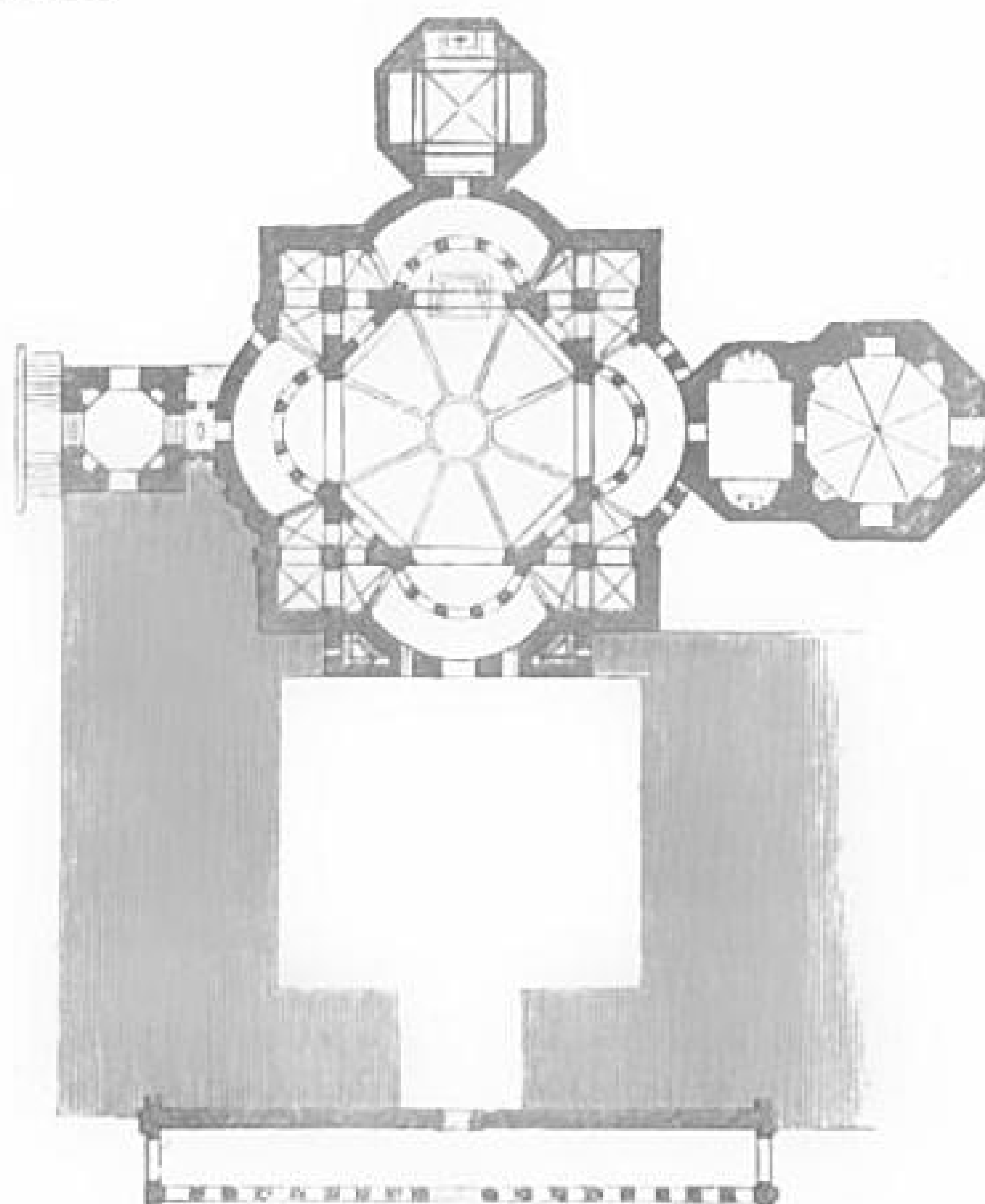
Internally a good deal has been done in modern times to destroy the simplicity of the original effect of the building; but still there is a pleasing effect produced by alternating the piers with circular columns, and a lightness and elegance about the whole design that renders it unrivalled in the Western world among churches of its class. It seems to have been admired by its contemporaries as much as in modern times. Charlemagne at least, we know, copied it for his own tomb at Aix-la-Chapelle, and many other circular buildings of that age seem to have derived their inspiration from this one.

The church of San Lorenzo at Milan, had it not been so much altered in modern times, would take precedence of San Vitale in almost every respect. The date of its erection is not known, though it certainly must be as early, if not earlier than the time of Justinian. Down to the 8th century it was the cathedral of the city. It was burnt to the ground in 1071, and restored in 1119; the dome then erected fell in 1571, on which it underwent its last transformation from the hands of Martino Bassi and Pellegrini, who so disfigured its ancient details as to leave considerable doubt as to its antiquity.

Its plan, however, seems to have remained unchanged, and shows a further progress to what afterwards became the Byzantine style than is to be found either in the Minerva Medica or in San Vitale. It is

in fact the earliest attempt to bring the circular church to a square shape; and except that the four lateral colonnades are flat segments of circles, and that there is a little clumsiness in the angles, it is one of the most successful we know of in that early age.

The dome as it now stands is octagonal, which the first dome certainly could not have been. Its diameter is 70 ft., nearly equal to that of the Minerva Medica, and the whole diameter of the building internally 142.



394. Plan of S. Lorenzo at Milan. From Quast, Alt Christlichen, &c. Scale 100 ft. to 1 in.

In front of the church, in the street, is a handsome colonnade of pillars, borrowed from some ancient temple—it is said from one dedicated to Hercules. This leads to a square atrium, now wholly deprived of its lateral arcades; and this again to a façade, strangely altered in modern times. Opposite this, to the eastward of the church, is an octagonal building, apparently intended as a tomb-house; and on the north side a similar one, though smaller.

On the south is the baptistery, about 45 ft. in diameter, and approached by a vestibule in the same manner as that of Constantine at Rome, and the tomb of his daughter Constantia: all these, however, have been so painfully altered, that little remains besides the bare plan of the building; still there is enough to show that this is one of the oldest and of the most interesting Christian churches of Italy.

The building now known as the Baptistery at Florence is an octagon, 108 ft. in diameter externally. Like the last-mentioned

church, it originally was the cathedral of the city, and was erected for that purpose apparently in the time of Theodelinda, queen of the Lombards. If this was so, it certainly had not originally its present form. Most probably those columns which now stand ranged round the walls, at that time stood in the centre, as in the Roman examples. If the original roof was of wood, it was probably in two stories, like that of the baptistery of Constantine, or it may have been a dome of more solid materials like that of the Sta. Costanza.

At the same time when the new cathedral was built, the older edifice seems to have been remodelled both internally and externally by Arnolpho da Lapo, and both its form and decoration so completely changed, that it must be considered rather as a building of the 13th century than of the 6th, in which it seems originally to have been erected.[1]

There can be little doubt that many other similar buildings belonging to this age still exist in various parts of Italy; for it is more than probable that almost all the earlier churches were circular, when at least the city was not of sufficient importance, or the congregation so numerous as to require the more extended accommodation of the basilica. They either, however, have perished from lapse of time, or been so altered as to be nearly unrecognisable; and we must again leap forward over the intervening centuries to the Pisan style, to find the Romanesque as complete a style as the Gothic, and possessing beauties and qualities of its own.

The most perfect as well as the most celebrated example of this style is the Baptistery of Pisa, commenced from the designs of Dioti Salvi,[2] about a century after the cathedral, and showing that richness and completeness which we admire in San Michele at Lucca; avoiding, like that church, the defects which were pointed out in speaking of the cathedral, but still retaining the inherent faults of the style, inasmuch as the architecture is mere ornament, being neither an arcade for shelter, nor a buttress for constructive use. It is also difficult now to ascertain what the original design really was, as the works were continued down to the end of the 14th century, and a great deal of the then fashionable Gothic ornament was added to the Romanesque forms of the original, and so engrafted on and mixed up with them as to make it difficult to distinguish what is mere addition which has replaced the earlier forms.

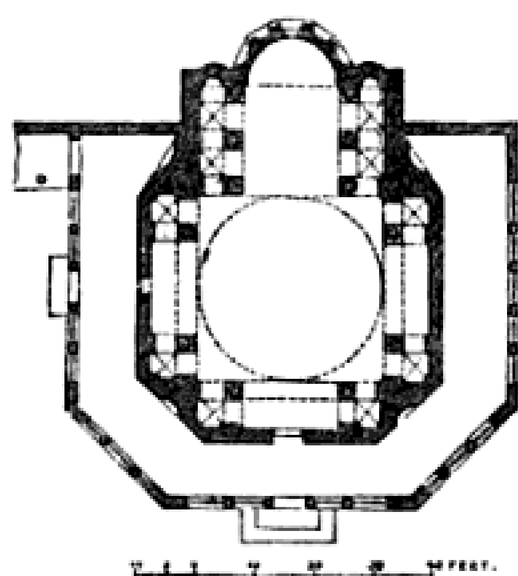
Internally the building is exactly 100 ft. in diameter. The central part, 59 ft. wide, is a circular colonnade, with four polygonal piers and pairs of pillars between them. This supports a lofty cone, internally 175 ft. in height, the lower part of which is now covered externally with a dome, which from its ornaments is evidently of the 14th century, and certainly not a part of the original design, which, like most

[1] In this building they now show a sarcophagus of ancient date, said to be that of Galla Placidia, daughter of Theodosius. She, however, was certainly buried at Ravenna; but it may be of her time, and in these ages it is impossible to distinguish between baptisteries and tombs.

[2] One portion of the building is shown (woodcut No. 382).

Italian domes of this age, was probably intended to have consisted of successive circular stories, each less in diameter than that below it, the whole terminating in a lofty cone. That such would have been a more appropriate and beautiful feature than the present ungraceful central tower cannot be doubted; and if it existed, it would really render this one of the most beautiful buildings of its age and style. Even as it is, the beauty of its details and the exuberance of its ornaments render it externally a most captivating design, though internally it possesses neither elegance of form nor beauty of any sort.

A more graceful design than this, though insignificant in size and richness, is the little church of Sta. Fosca in the island of Torcello, whose basilica we have already spoken of. The whole building is only 75 ft. across; the dome—unfortunately a wooden one—little more than 30 ft. in diameter. But the mode in which it is placed on its eight pillars, and the variety of perspective given by the breaks in the wall, the dignity of the choir and the general arrangement are above all praise. Externally, too, the arcade is a real one, not merely *appliqué*, as in the Pisan examples, and affords both shadow and relief to the exterior—as gracefully at least, if not more so, than the circular colonnades of the Roman temples, from which the idea is evidently borrowed. The details of these pillars also, and their arches, are singularly graceful, and make up a whole as remarkable for its elegance as it unfortunately is for its singularity. It is evidently nearly the last of its race; for after this period, except in an occasional baptistery here and there, all reminiscence of the circular or polygonal forms seems to have been abandoned for the rectangular arrangement of the basilicas, which thenceforward were almost universally adopted.[1]



395. Plan of Sta. Fosca, Torcello. From Agincourt

[1] In this and the following chapters the expression "East End" is generally used as if synonymous with altar end. On this side of the Alps such an expression would be always correct. It is so in nine cases out of ten in such German cities as Milan or Verona, but is correct only by accident in such as Pisa, Ferrara, Bologna, or any of the cities of the South, where the Gothic races did not entirely supersede the original population; but as without very large detailed plans of the towns it is impossible to ascertain this, the expression has been allowed to stand.

The orientation of churches, by turning their altars towards the east, is wholly a peculiarity of the Northern or Gothic races; the Italians never knew or practised it.

CHAPTER V.

ROMANESQUE ARCHITECTURE.

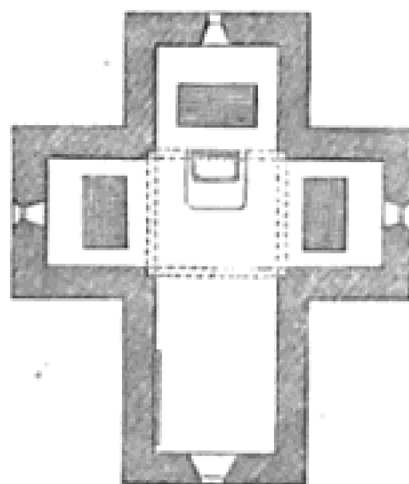
CONTENTS.

Tombs — Towers — Secular buildings — Romanesque Architecture in the East.

TOMBS.

IT has already been remarked that it is difficult to distinguish in all cases between baptisteries and tombs; but there are at all events two of the latter class of edifices at Ravenna regarding which there can be no doubt.

The earliest—that of Galla Placidia—now known as the church of SS. Nazario and Celso, must have been erected before the year 450. It is singular among all the tombs of that age from its wholly abandoning the circular for a cruciform plan. Such forms, it is true, are common in the chambers of tumuli and also among the catacombs, and the church which Constantine built in Constantinople and dedicated to the Apostles, meaning it however as a sepulchral church, was something also on this plan. Notwithstanding, however, these examples, this must be considered as an exceptional form, though its smallness (it being only 35 ft. by 30 internally) might perhaps account for any caprice. Its great interest to us consists in its retaining not only its original architectural form, but also its polychromatic decorations in a state of almost their original completeness.[1] The three arms of the cross forming the receptacles for the three sarcophagi is certainly a pleasing arrangement, but only practicable on so small a scale. Were it larger, it would lose all appropriateness as well as all effect.



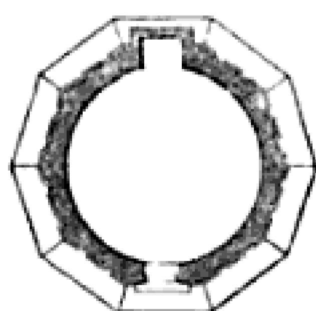
396. Tomb of Galla Placidia, Ravenna. From Quast. No scale.

Far more interesting than this—architecturally at least—is the tomb of Theodoric, the Gothic king, now known as Santa Maria Rotunda. The lower story is a decagon externally, enclosing a cruciform crypt. It is 45 ft. in diameter, each face being ornamented by a deep niche. These support a flat terrace, on which originally stood a range of small pillars supporting arches which surrounded the upper

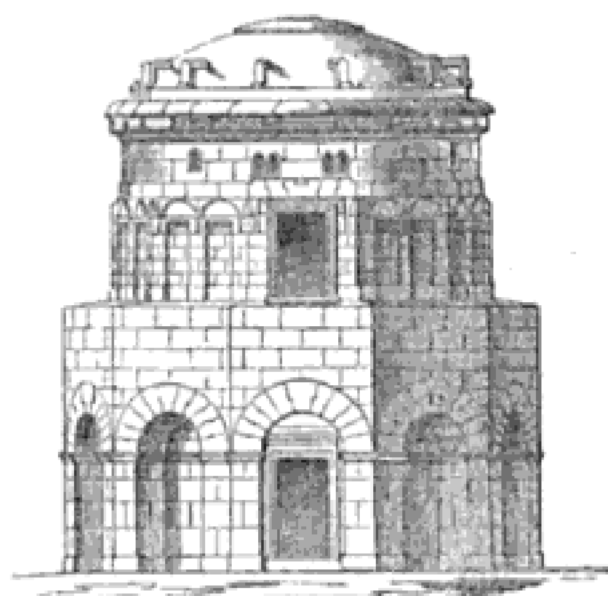
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[1] These are well illustrated in Quast, Alt Christlichen Bauwerke zu Ravenna.

story. These have all been removed, and no trace of them remains except on the face of the tomb itself, where the sinkings of their architraves and vaults are still distinctly shown. The most singular part of the building is the roof, which is formed of one great slab hollowed out into the form of a flat dome—internally 30 ft. and externally 35 ft. in diameter—and forms certainly one of the most singular and appropriate coverings for a tomb perhaps anywhere to be found. Near the edge are a range of false dormer windows, which evidently were originally used as handles by means of which the immense mass was raised to its present position. In the centre of the dome is a small square pedestal, on which, it is said, once stood the urn which contained the ashes of its founder.



397. Plan of Tomb of Theodoric. Scale 50 ft. to 1 in.



10 20 30 40 50 ft.

398. Elevation of Tomb of Theodoric, Ravenna. From Isabelle, Edifices Circulaires.

The model of this building seems almost certainly to have been the mole of Hadrian, which Theodoric saw, and must have admired, during his celebrated visit to Rome. The polygonal arrangements of the exterior, and the substitution of arcades for horizontal architraves, were only such changes as the lapse of time had rendered indispensable. Whether we consider the appropriateness of the forms, the solidity of its construction, or the simplicity of its ornaments and details, this tomb at Ravenna is not surpassed by any building of its class and age. It deserves attention, besides, from being apparently the first building to which the style of external decoration was applied which we have just been examining in its greatest development at Pisa.

Towers.

There is perhaps no question of early Christian archæology involved in so much obscurity as that of the introduction and early use of towers. The great monumental pillars of the Romans, such for instance as those of Trajan or Antoninus, were practically towers, and latterly their tombs began to assume an aspiring character like that at St. Remi (woodcut No. 286), or those at Palmyra and elsewhere in the East, which show a marked tendency in this direction. But none of these can be looked upon as an undoubted prototype of the towers attached to the churches of the Christians.

At Ravenna, as early as the age of Justinian, we find circular towers attached to St. Apollinare ad Classem (woodcut No. 376),

and in the other churches of that place they seem to have been considered as no less necessary adjuncts than they were in after ages. At the same time, it is by no means clear that they were erected as bell-towers; indeed the evidence is tolerably clear that bells were not used in Christian churches till the time of Pope Adrian I., some two centuries later. What, then, were they? There is, I think, no trace of their being sepulchral monuments, or that they were designed or used as tombs; and unless they were, like the *sthambas* of the Buddhists,[1] pillars of victory, or towers erected to mark sacred or remarkable spots, it is difficult to say what they were, or where we are to look for an analogy.

Be this as it may, the oldest towers of the circular form that we are acquainted with are those of Ravenna, unless indeed some of the Irish towers are earlier; and the last of the series of circular Romanesque towers is the famous leaning one at Pisa, commenced in the year 1174. The gradations between these two extremes must have been the same that marked the changes in the architecture of the churches to which they are attached; but the links that connect the two are more completely wanting in the case of the towers than in that of the churches.

The tower of St. Apollinare ad Classem, above referred to, the most perfect of those at Ravenna, is a simple brick tower (see woodcut No. 376), 9 stories in height, the lower windows being narrow single openings; above there are two, and the three upper stories adorned with four windows of three lights each.

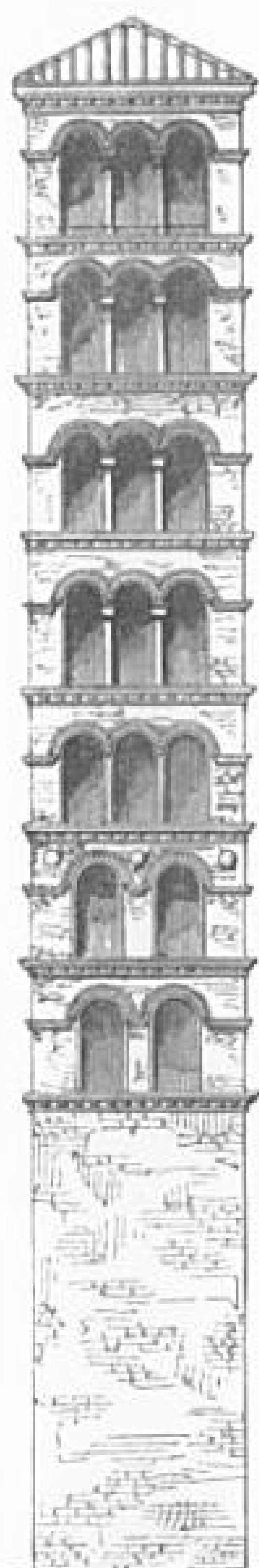
The celebrated Pisan tower (woodcut No. 382) possesses all the peculiarities of the style to which it belongs—the lower story, 35 ft. in height, having an arcade of three-quarter columns, above which are six stories of arcades averaging something less than 20 ft. each. It was apparently after the building of the third of these that the settlement took place to which the tower owes its principal celebrity, as it is attempted to be set right in the fourth. This part of the tower is 52 ft. in diameter; but the eighth story, which was not added till the middle of the 14th century, is hardly 40 ft. across. Whether this was therefore the original design or not, we do not now know; or whether it was adopted in consequence of the settlement of the tower requiring a lighter superstructure and less altitude than was at first intended: but whether it is so or not, it forms a graceful variety to the monotony of the six stories of arcades. Notwithstanding these defects in the design, and its unstable position, it is one of the most pleasing as well as one of the richest of the Italian campaniles of its age.

In Rome, in so far as we now know, the first tower attached to a church was that built by Pope Adrian I., in front of the atrium of St. Peter's; but they soon became common, and we now find them belonging to the churches of S. Lorenzo without the walls, S. Croce in Gerusalemme, S. Giovanni, S. Paulo, S. Clementino, S. Giorgio in Velabro, and others. All these are square in plan and extremely similar in design, no improvement and scarcely any change having

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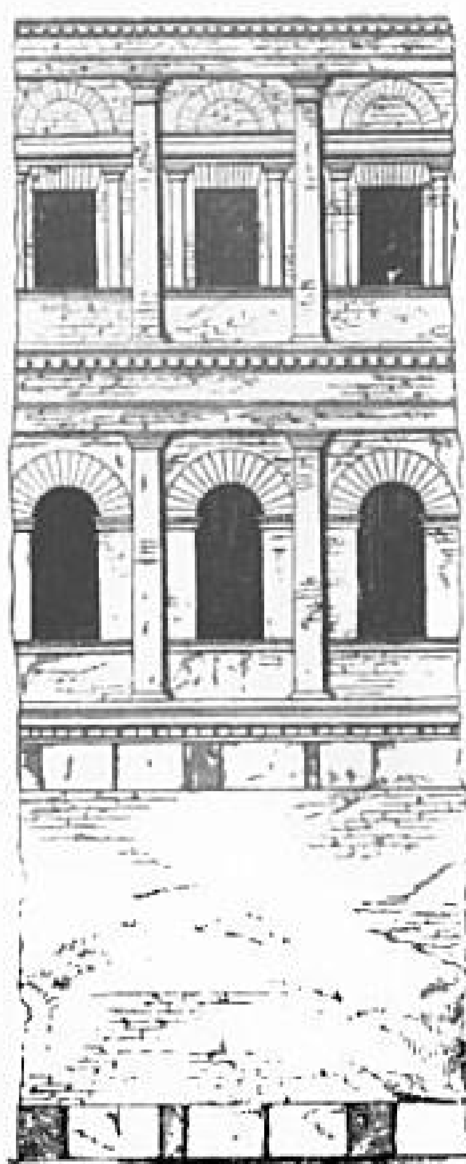
[1] See p. 6.

taken place between the first and the last, as if it were an old and established form when first adopted. That attached to Sta. Maria in Cosmedin is perhaps one of the best and most complete. Its dimensions are small, its breadth being little more than 15 ft., its height only 110; but notwithstanding this there is a certain dignity of design in the whole, and, in a city where buildings are not generally tall, a sufficiency of height to give prominence without overpowering other objects, which renders these Roman towers not only beautiful structures in themselves, but singularly appropriate ornaments to the buildings to which they are attached.



399. Tower of Sta. Maria in Cosmedin. From Gutensohn and Knapp.

The chief interest of these towers is derived from the numerous progeny to which they gave birth: for though there is scarcely a single instance of a square Romanesque tower beyond the walls of Rome during the period in which this style flourished, the form was seized upon with avidity by the Gothic architects in all the countries of Europe; and whether as a detached campanile, as used in Italy, or as an integral part of the building, as we shall soon find it used on this side of the Alps, it forms the most prominent, perhaps also the most beautiful, feature in the aspiring architecture of the Middle Ages.



400. Porta Palatina, Turin. From Osten's Bauwerke in der Lombardei.

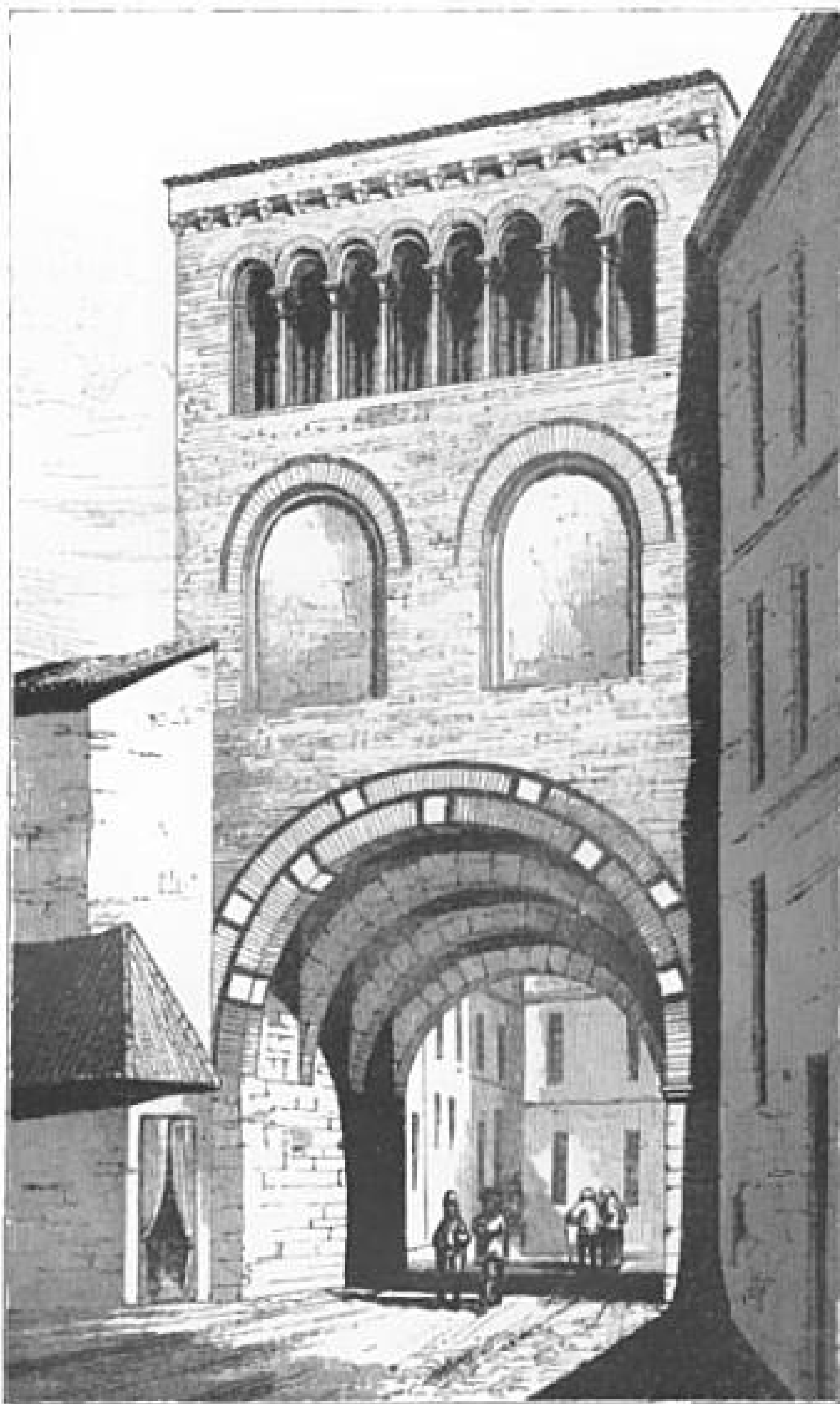
Secular Buildings.

Very few remains of secular buildings in the Romanesque style are now to be found in Italy. The palace of Theodoric at Ravenna, though sadly mutilated, is perhaps the best and most perfect. In all its details it shows a close resemblance to that of Diocletian at Spalatro, more especially to the Porta Aurea and the most richly and least classically decorated parts of that edifice, mixed at the same time with mouldings and details belonging properly to the Gothic styles, which were then on the eve of being introduced into general use.

Another building, perhaps slightly more modern, is the Porta

Palatina at Turin, which still retains the architectural ordinance of the exterior of a Roman amphitheatre, but so modified by Gothic feeling that the pilasters are even more useless and unmeaning than in its classical prototypes. The style is evidently beginning to feel its own strength, and learning to dispense with the traditional forms that had so long governed it. This building, which cannot be dated more precisely than by saying that it belongs to the age between Justinian and Charlemagne, is probably the last expiring effort of Romanesque architecture in a Gothic country, though the paucity of contemporary examples renders it extremely difficult to trace the exact history of the style at this age.

Another example—the Palazzo della Ragione at Mantua—shows the style as it existed in the 12th century, when it had wholly emancipated itself from the classic principles of design, though still retaining reminiscences of classic forms in all its details. It illustrates also the great principle of Lombard design in tall buildings, which they always sought to ornament by increasing the number of openings in each story, and decreasing in consequence their size, but making them at the same time more ornamental.



401. Gateway, Palazzo della Ragione, Mantua. From Street's 'Brick and Marble in the Middle Ages.'

If more attention were paid to the subject, it is probable that many fragments of civil and domestic architecture might be found, sufficient to illustrate the progress of the art in this age; but civil buildings are so generally altered to suit the varying wants of the community, that probably no complete building now remains; and after all, the examples must always have been so inferior to the ecclesiastical specimens as to be far less important in any history of art.

Were it possible without repetition and needless complexity to treat the subject in a perfectly consecutive manner, it is here that the chapter on the Romanesque styles of France and Spain ought to follow. For the latter, however, I fear we have absolutely no materials as yet; and though France is rich in fragments, no edifices remain sufficiently unchanged in form and feature to enable us to speak of their architectural beauties of design. Nor could we from these restore the style, if we had lost all trace of it in other countries. It will therefore be found more convenient, though perhaps not so philosophical, to treat the French Romanesque as an incipient Round Gothic style, if the expression may be used, and by treating the whole consecutively, to trace the gradual change of the one into the other. This change in the south of France was singularly easy and gradual, for the barbarians never settled in that country in sufficient numbers to overwhelm the more polished races, or to obliterate that civilisation which the Romans had established and had left there. So that till the time of Simon de Montfort and the crusade which placed him on the throne of Languedoc, it is difficult to say whether the Romanesque or the Gothic style had the predominance in that country.

At the same time, such specimens as the porch of the cathedral at Avignon, the baptistery at Aix, and the circular church at Riez, the two churches at Vaison, and numerous other examples which will be alluded to in the sequel, are all of such pure and undoubted Romanesque, that in a work treating of that style alone, they could not possibly be passed over. Still in the next age many examples are so similar to them that it requires no slight knowledge to distinguish between the one and the other. The Romanesque here passes into the mediæval form by such insensible gradations, that it is nowhere possible to draw a line between them.

To all this we shall return hereafter; and in the mean time say what little can be said regarding the Romanesque style in the Eastern empire, which concludes the present section of the work.

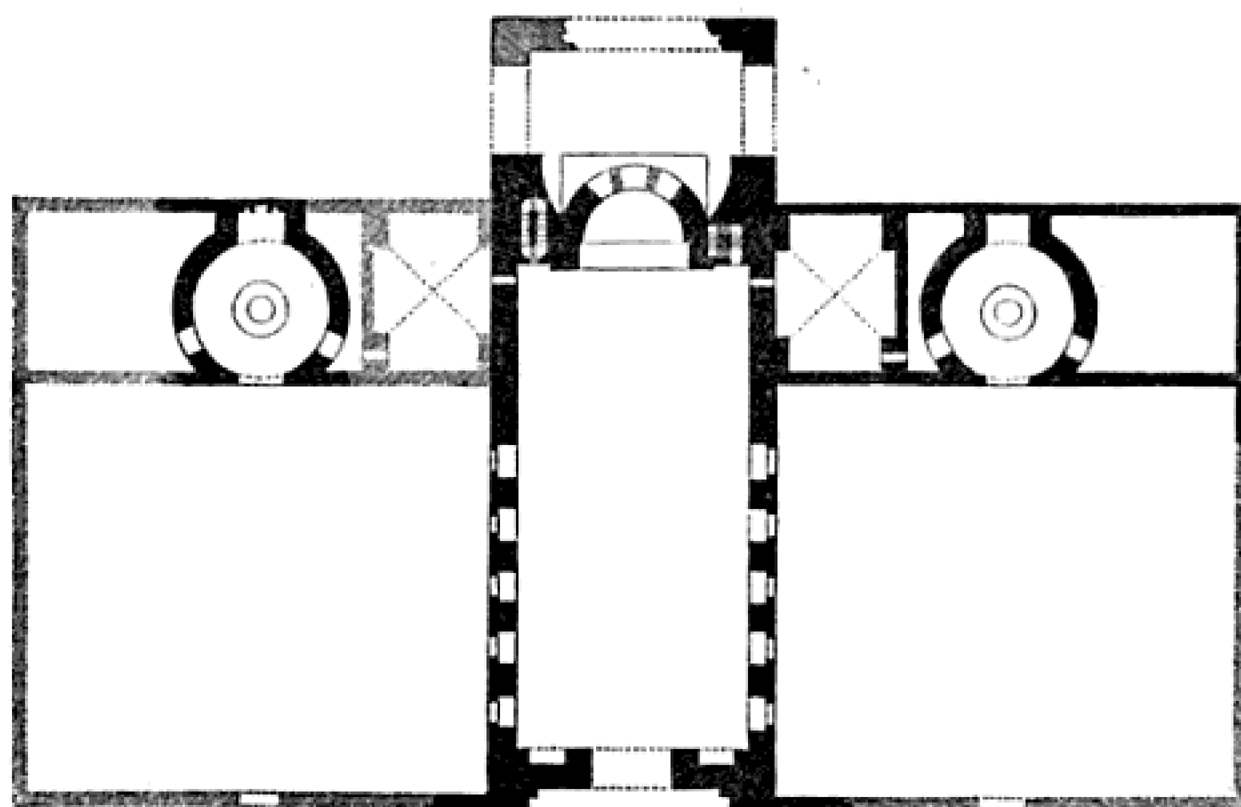
Romanesque Architecture in the East.

The almost total destruction of the two great imperial cities of the Levant—Antioch and Alexandria—has left a gap in the architectural history of the Christian Church which will never probably be supplied. In the latter city especially the community of the Christians seems to have been important as early as the time of Hadrian, and in the age of Athanasius they possessed a hierarchy and all the organisation of a powerful society. Could we now restore their churches, they would leave little to be desired in this branch of our subject: unfortunately, not one stone remains on another of all the proud structures of that queen of the East. We are also singularly deficient of even the usual rhetorical descriptions of the early Christian writers, from which we might guess at the forms and dimensions of the buildings that adorned the city. From such fragments as still exist in the Thebaïd and other parts of Upper Egypt,

there can be little doubt but that they were, like those of Rome, either basilicas or circular churches, adorned internally with columns taken from earlier buildings, but at Alexandria almost universally supporting pointed arches instead of horizontal architraves. The Christian edifices in the Thebaïd at least *all* possess this peculiarity, and its almost universal adoption by the Moslems in the first century of the Hejra[1] points to its general, if not universal, use in the countries which they first conquered.

At Antioch[2] we have only a description of an octagonal church erected by Constantine, on which Eusebius lavishes a few of the flowers of his bombastical eloquence, from which it is so difficult to glean a few grains of common sense. He is, however, more intelligible in speaking of the basilica at Tyre,[3] built by Paulinus the bishop in the first years of the 4th century. In every respect it seems to have resembled a 3-aisled Roman basilica, with a spacious atrium, adorned by its fountain and galleries over the side aisles.

The church at Pergamus is almost the only one of this age that has been examined with anything like the care or attention neces-



402. Church at Pergamus. From a plan by Ed. Falkener, Esq. Scale 100 ft. to 1 in.

sary to understand its peculiarities. It is so like a Pagan building in many respects, that it has frequently been taken for one, though all admit that it was subsequently used for Christian purposes.

As will be seen from the woodcut No. 402, it is a simple basilica-formed building twice the length of its breadth, ending in a simple apse pointing towards Jerusalem. It originally had galleries on both

[1] For further particulars the reader is referred to a paper read by the Author to the Royal Institute of British Architects on the 18th of June, 1849, and to another on the same subject by Sir Gardner Wilkinson, read on the 16th of July of the same year. The latter paper confirms the Author's views of the matter to the fullest extent. Both papers were reported in the usual literary periodicals of the day.

[2] Vita Constantini, iii. 50.

[3] Eusebius, Alexand. Hist., x. 14.

sides, and the places where the beams were inserted are still seen on the walls, though it is not clear how they were supported in front. It may have been by marble columns, which would have been easily removed, or possibly they were of wood, and have decayed. On each side of the apse are something like transepts, but opening only by doors to the church, and beyond these two circular domical buildings with square apses. These may have been either sacristies, or baptisteries, or tombs; there is nothing now left to mark their destination; but in the early ages of the church the complete ecclesiastical establishment always consisted of a rectangular building grouped with one or two of circular form. St. Peter's had two placed on one side; St. Sophia has two situated at the alternate angles; and already several instances have been quoted of such a juxtaposition, and many more will appear in the sequel: but the typical example was that at Jerusalem, which consisted of one great circular building placed somewhat unsymmetrically to the southward and eastward of the basilica, and being the most sacred and important church in the East of its age, it fixed the fashion indelibly on all future churches of its class.

This church at Pergamus is built of brick, and was faced with stone, but the greater part of this coating, with almost all the architectural mouldings, have been removed, so that it is difficult to fix its age with anything like certainty; there can, however, be little doubt but that it belongs to the age of Constantine. It may be as likely a little before as a little after his exact period.

There is another church of the 4th century known to exist at Nisibin.[1] It is a triple church, the central compartment being the tomb of the founder, the first Armenian bishop of the place. Though much ruined, it still retains the mouldings of its doorways and windows as perfect as when erected, the whole being of fine hard stone. These are identical in style with the buildings of Diocletian at Spalatro, and those of Constantine at Jerusalem; and as their date is well known, they will, when published, form a valuable contribution to the scanty information we now possess regarding the architecture of this period.

There is every probability that many more fragments of Christian churches of this early age still remain in Asia Minor and Syria, and when examined will enable us to reconstruct the lost chapter in the history of art; but till this is done, we must rest content with two well-authenticated buildings of the age of Constantine, which still exist at Jerusalem and Bethlehem.

Churches at Bethlehem and Jerusalem.

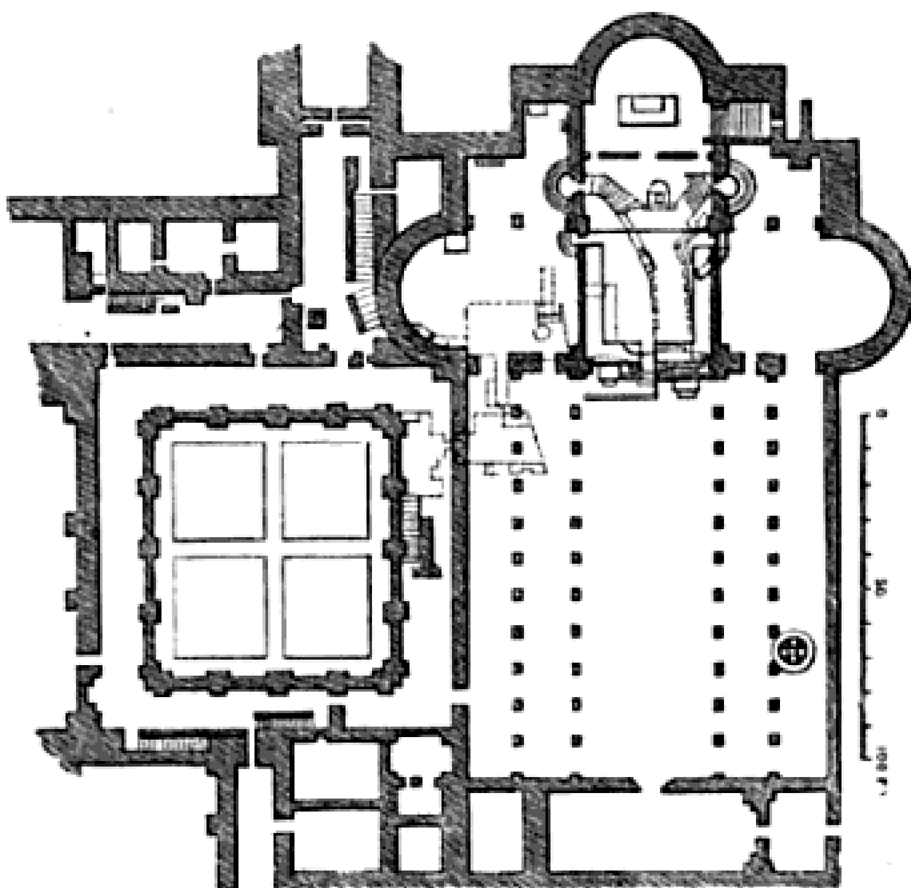
Although the church at Bethlehem has been frequently sketched in recent times, no plans nor any details have been published that can

[1] Drawings of this building have been recently brought home by M. Boutcher, the artist employed by the Assyrian Excavation Fund, and will no doubt be one day published.

at all be depended upon since the time of Bernardino Amici,[1] in the very beginning of the 16th century, from whom the annexed plan is taken.

The basilica is of the usual form, 5-aisled and about 110 ft. wide, and the nave only a little longer than its breadth. The arrangements of the choir are peculiar, owing apparently to the crypt being the principal object here, and the two entrances to it requiring a different disposition of parts to what is usually found. There is considerable dignity as well as grace in the arrangement of the 3 apses shown in the plan, which gives an expanse and importance to the holy of holies, which, though aimed at, was not attained in the Roman examples.

The pillars of the nave seem to have been borrowed from some earlier building, possibly the porticos of the temple at Jerusalem, and are connected by horizontal architraves, above which are a range of frescoes, now almost obliterated, but which were, in part at least, probably coeval with the church.[2] They are interesting to the archæologist, as showing the same scroll-work as is found in the contemporary church at Jerusalem, in the oldest buildings at Ravenna, and in those of Rome, where the ancient decorations still remain, by comparing which it would be easy to restore this style of decoration. As will be seen from the plan, the church possessed a narthex, with two lateral chapels and an atrium, destroyed probably when the cloisters, which are a mediæval addition, were erected to supply its place. Besides these the conventual buildings were extensive, but all probably of a more modern date.



403. Church of the Nativity at Bethlehem. From Bernardino Amici.

At Jerusalem we know, from the description of Eusebius, that Constantine erected two churches: one, called the Martyrion, was a 5-aisled basilica, probably very similar to the church at Bethlehem,

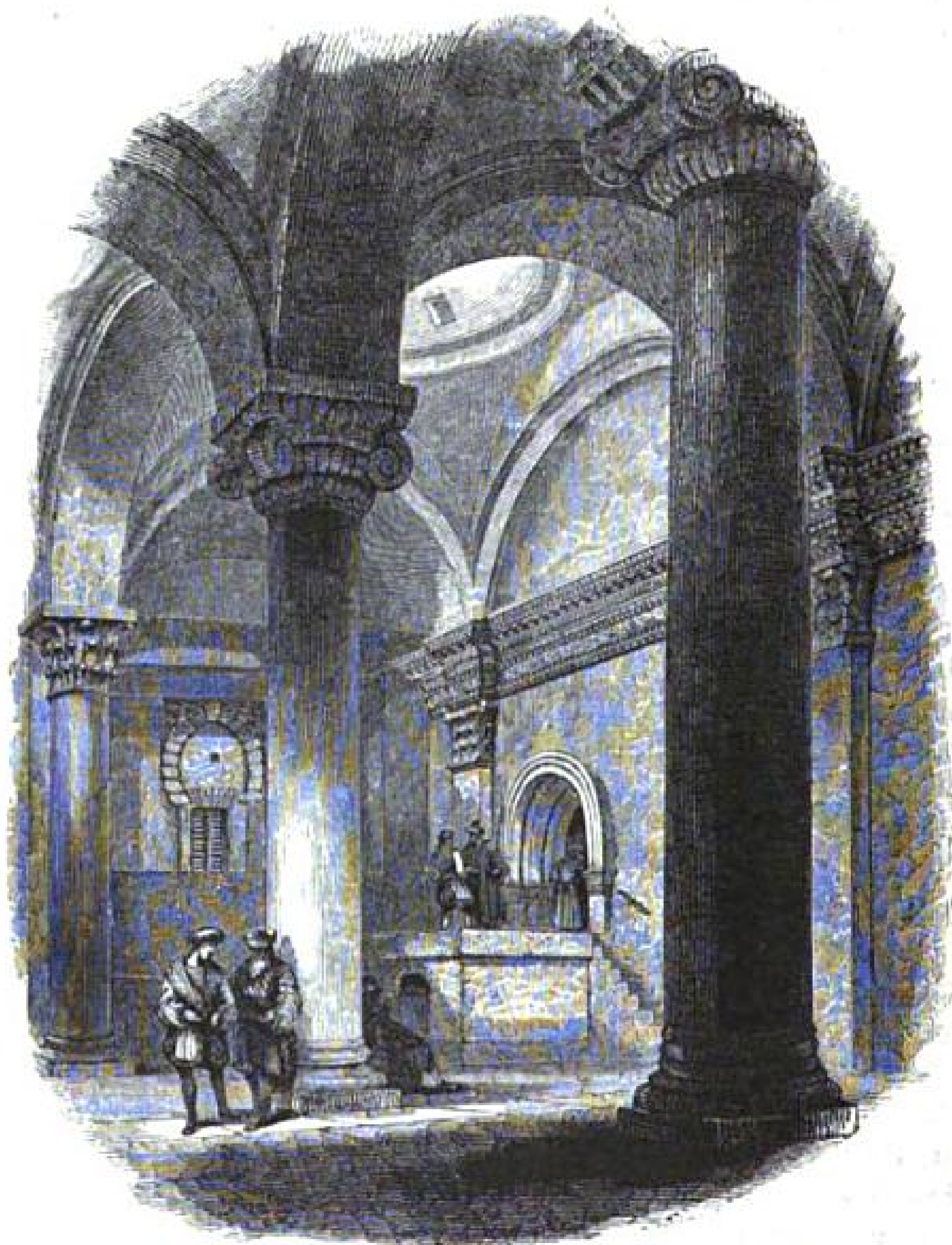
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[1] Trattato delle Piante ed Imagine di Sacri Edifizi di Terra Santa. Firenze, 1620. I do not feel quite sure that I have correctly understood the measurements. I have taken the Neapolitan palm at .865 ft. English, but the author gives 10 of these to a canna, which is now only 6.9; his quotations, however, are all in palms, so I presume this is the principal measure with him.

[2] Published by Campini, de Edif. Constantini.

except that no mention is made of a transept; but having merely a verbal description, it is not easy to understand many of its parts. At present we must accept the church just described as a specimen of a rectangular church, instead of entering into the question of its details, which is open to considerable controversy.

One fragment of this great basilica only remains in the outer gateway of the Atrium, now known as the Golden Gateway. Externally

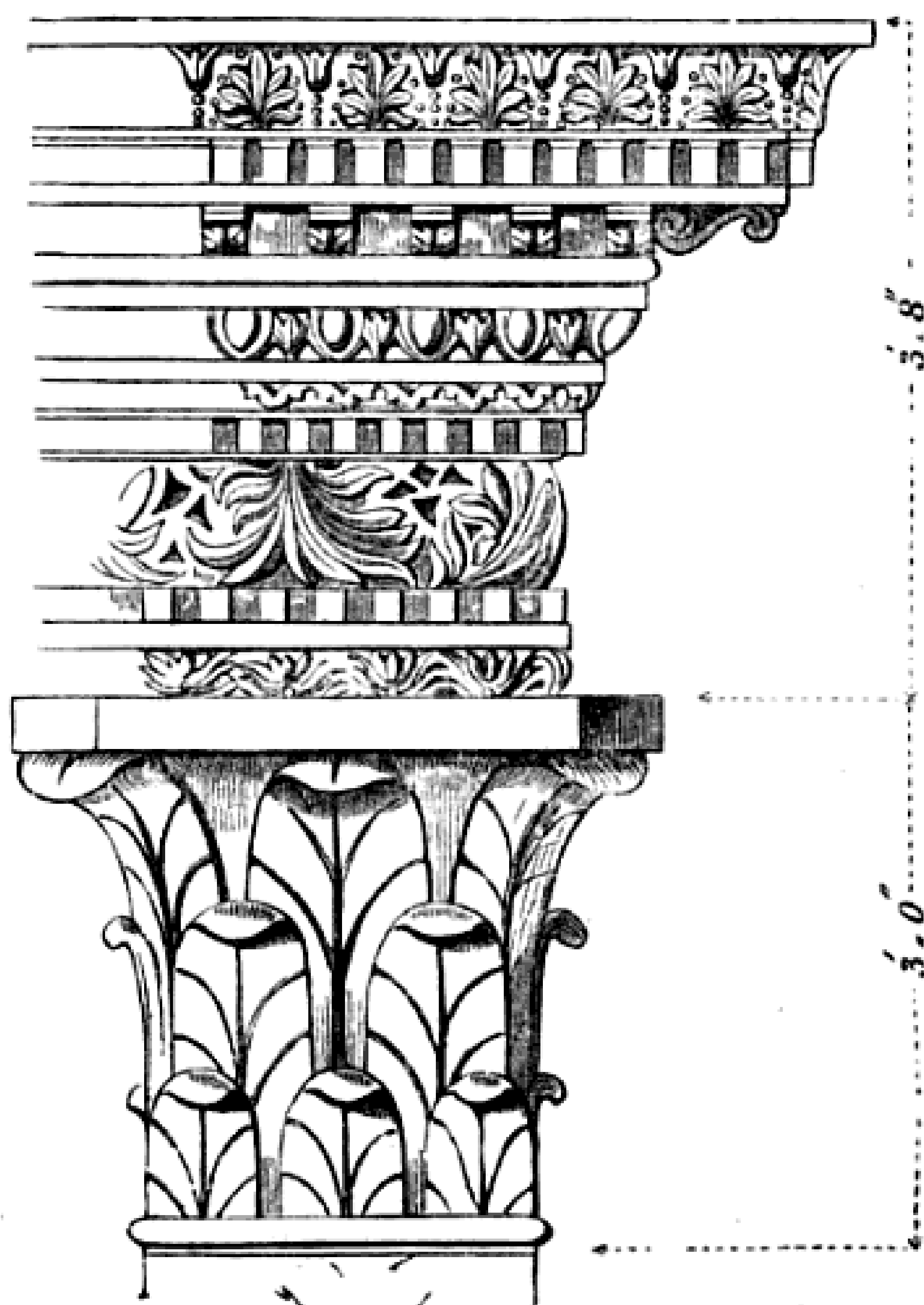


404. Interior of the Golden Gateway. From a drawing by Catherwood. Originally published in Fisher's 'Oriental Album.'

it presents all the characters of transition so strongly marked in the buildings of Diocletian at Spalatro (woodcut No. 246). The principal arches spring from the capitals of Corinthian pillars, and the whole entablature is bent round the arch instead of the architrave only, as was the case previously. Internally the same transitional character is preserved. The entablature, as shown in the woodcut No. 404, is carried along the wall from pilaster to pilaster as a mere ornament, under

an arch which is, as in the mosque of Omar, the real constructive form of the roof. The order is still purely Corinthian, but of so debased a character, that it could not have been executed even in the East before the time of Constantine, and as certainly cannot belong to the age of Justinian, or to any time approaching his period, as will be seen hereafter.

The Ionic order in the centre is of a more debased character, but not unlike some of the latest specimens in Rome, and may have been copied from some local types, the original of which we do not now possess.



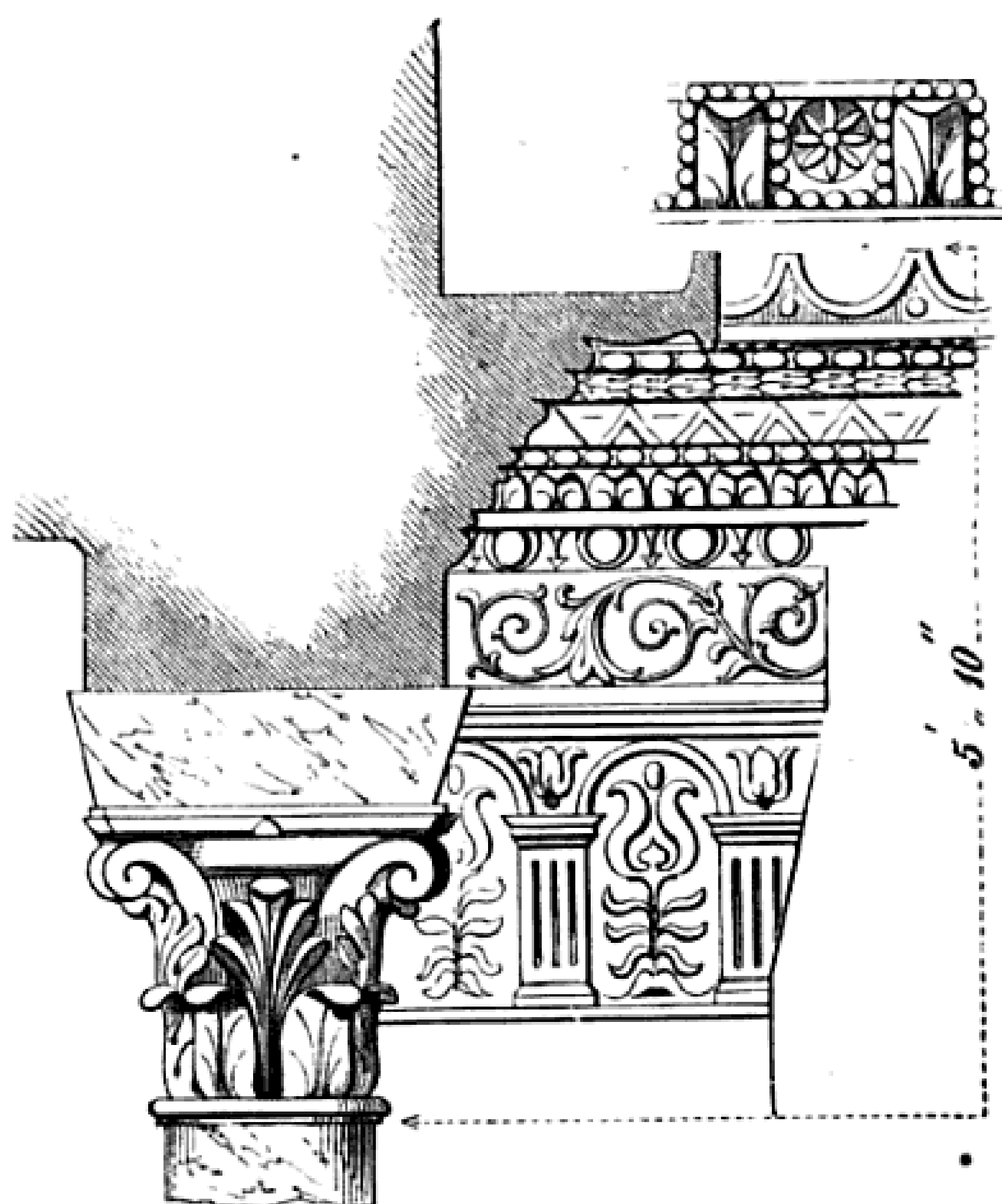
405. Order of the Golden Gateway. From a drawing by Arundale.

The building now known as the mosque of Omar,[1] or more correctly as the Dome of the Rock, is another church of this age, and being of a circular form it supplies those particulars which the church of Bethlehem, from its form, could not give, to enable us to judge of the style of that age in Syria. Fortunately it has been measured and drawn with the utmost accuracy by two English architects, Messrs. Catherwood and Arundale, who obtained access to it during the ascendency of Mahomet Ali in Syria.

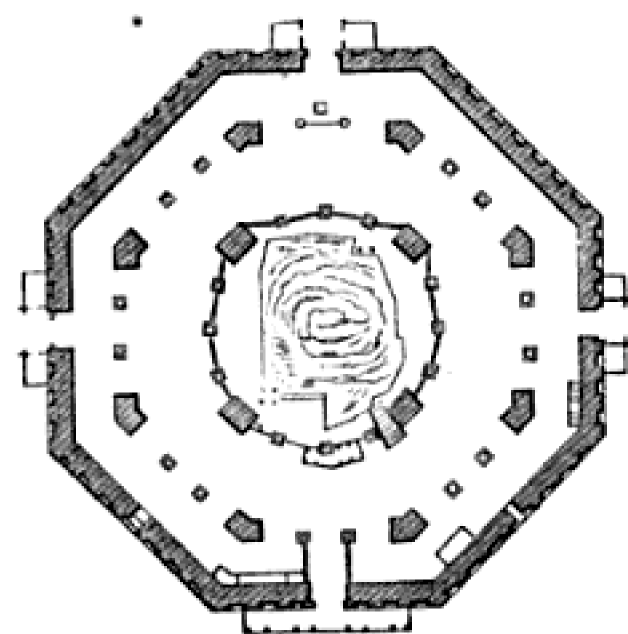
As will be seen from the annexed plan, it is an octagonal church

[1] In the year 1847 the author published a work entitled 'Essay on the Ancient Topography of Jerusalem,' the object of which was to prove that the building now called the Mosque of Omar was the identical church raised over the sepulchre of our Lord by Constantine. Since that work was published several explorations have taken place, and many new facts have been brought to light bearing on the question. All these, without one single exception, serve to confirm the facts therein stated. On the other hand, not one of the data on which the conclusions in the work are founded has been either refuted or shewn to be unfairly used. All this has served to confirm the author more and more in the views originally propounded; and judging from the data before him, they do not, to his mind, admit of a shadow of doubt. As the case, however, with the public is still *sub judice*, it has not been thought proper to introduce the controverted facts into the text.

of the first class, 148 ft. in diameter internally—the central dome, 66 ft. in diameter, being supported by a circle of 12 pillars, with 4 great piers, the outer circle having 16 pillars and 8 piers. The pillars are all of the Corinthian order, those of the inner circle being the largest, and supporting arches like those in the contemporary Roman buildings. The outer pillars are connected by an architrave placed horizontally under the springing of the arches, designed evidently as an ornament, as in the Golden Gateway, because in that early age of Christian art the horizontal style still held its ground, having for nearly 2000 years been almost the only one practised in this part of the world. The details of this entablature (woodcut No. 406) are somewhat confused and overloaded, but not more so than those found in Diocletian's palace at Spalatro, or the contemporary buildings in Rome. Altogether they are of singular elegance, though the transitional character of the architecture cannot be defended either as a beauty or as a model for imitation. Above the inner circle of columns is a highly ornamented belt, and over that a clerestory—the ornaments being in raised stucco-work, heightened in effect with colour, being the only instance of a complete decoration of the sort remaining entire and perfect to the present day; for though the dimensions and disposition



406. Order of the Dome of the Rock. From a drawing by Arundale.



407. Plan of the Dome of Rock at Jerusalem. From Catherwood and Arundale. Scale 100 ft. to 1 in.

of this part are repeated frequently in Rome and elsewhere, as we have already had occasion to remark, it is almost always more or less defaced. The baptistery at Ravenna is similar both in style and form, but that is only painted, I believe, on a flat ground.

The present dome was built, or at least thoroughly repaired, some two centuries ago by the sultans of Constantinople, and differs in detail from its base, and probably in form also from the original covering. The slightness of the walls proves incontestably that the central roof must always have been of wood; so also was and is the ceiling of the aisles, which remain nearly in the state in which they were put up in the 4th century. Under the central dome the living rock, as shown in the plan (woodcut No. 407), still stands, some 15 ft. above the bases of the columns that surround it.[1]

[1] The church of St. John at Damascus was one of the large Syrian churches of which it is generally supposed sufficient remains still exist in the present mosque to admit of their being restored. A plan and some photographs recently brought home by Mr. Porter dispel this illusion, and confirm the statements of Jelal-ud-din, who states that the Caliph Al Walid, A.H. 86, entirely destroyed the Christian church before commencing the building of his mosque. Apparently all that remains of Christian times is the western portal of the atrium of the church, a fragment of some of the lateral entrances now built into the southern wall of the mosque. As far as can be judged from such drawings as have been made, these are identical in style with the Golden Gateway and Dome of the Rock at Jerusalem, and belong to the beginning of the 4th century, A.D.

BOOK II.

LOMBARD AND RHENISH ARCHITECTURE.

CHAPTER I.

LOMBARD ARCHITECTURE.

CONTENTS.

CHRONOLOGY.

	DATES.		DATES.
Charlemagne	A.D. 768	Conrad the Salique	A.D. 1024
Louis le Débonnaire	814	Henry III.	1039
Lothaire I.	840	Henry IV.	1056
Louis II.	855	Henry V	1106
Louis III	899	Lothaire II.	1125
Conrad I. Hohenstaufen	911	Conrad III.	1138
Henry the Fowler	918	Frederick Barbarossa	1152
Otho the Great	936	Henry VI.	1190
Otho II.	973	Frederick II.	1212
Otho III.	983	Conradin	1250
Henry II.	1002	Rudolph of Hapsburg	1273

Even before the time when Alaric poured his destructive hordes into the fertile plains of Italy, large bodies of German barbarians seem to have settled themselves in the valley of the Po. After the campaigns of Alaric and Alboin, whole tribes, under the names of Goths, Ostrogoths, or Lombards, attracted by the amenity of the climate and the richness of the soil, and encouraged by the weakness and effeminacy of the inhabitants, poured in one continuous stream across the Alps, not only as conquerors but as colonists. They brought with them their wives and families, and prepared to desert for ever the forests where they and their forefathers had long dwelt, to settle on what was then as now the most fertile and most beautiful of all the plains of Europe.

Before the age of Charlemagne the transformation was complete: the Alps were no longer the boundary between Germany and Italy. The valley of the Po was inhabited by the same races who occupied that of the Rhine. The civilisation of Rome was superseded, and the population which had long enjoyed slothful security under her imperial sway were either extinct, or so completely swamped by the tide of hardier and more energetic races from the North, that we almost

lose sight of them, and we may hereafter regard the whole valley of the Po, and the whole of the central part of Italy, at least as far south as Spoleto, far more as a part of the rising empire of the North, rather than a remnant of the fallen power of Rome.

In such a state of things the philosophical student of architecture will of course expect to find this radical change as distinctly and as strongly impressed on the architecture of the land as upon either its history or its manners and language—nor will he be disappointed. The change is distinct and clear. Indeed, there is no chapter in the history of architecture in which, from our knowledge of previous and of contemporary styles, the ebb and flow of various races can be so clearly and so easily followed as in that of the Lombard races of the north of Italy.

At first, when the barbarians were few, and the Roman influence still strong, they of course were forced to adopt the style of their predecessors, and to employ Italian builders to execute for them works which, as barbarians, they were themselves incapable of producing. This state of things continued in Ravenna, Florence, Pisa, and other cities, which long after their subjection to the barbarian rule still retained their old population and old traditions, and amongst them, as we have just seen, their old Romanesque style.

The barbarians, however, as they became stronger, soon threw off the trammels of an art with which they had no sympathy, to adopt one which expressed their own feelings, and was better adapted to their purposes; and although the old influence still lay beneath, and occasionally even came to the surface, the art of those ages was Gothic in all essentials, and remained so during nearly the whole period of the middle ages.

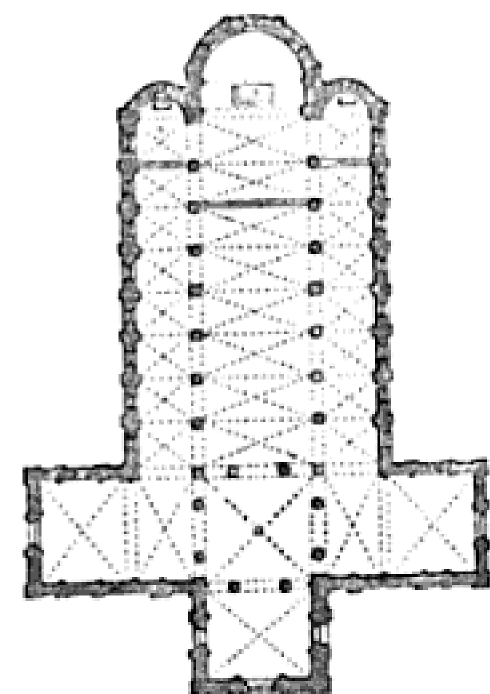


408. Chapel at Friuli. From Gailhabaud.

It is easy to trace the general outline of these changes, but very difficult to fix and settle either the date in which they took place or the mode in which they were effected, owing to the singular paucity of authentic monuments of the strictly Lombard period. Indeed, except one little chapel at Friuli, there is scarcely a single building belonging to this style which remains unaltered to the present day, and whose date is anterior to the 11th century.

The chapel at Friuli, though extremely small, being only 18 ft. by 30 inside the walls, is interesting, as retaining all its decorations almost exactly as they were left by Gertrude, duchess of Friuli, who erected it in the 8th century. It shows considerable elegance in its details, and the sculpture is far better than it afterwards became, though perhaps its most remarkable peculiarity is the intersecting vault that covers it (*pulchre testudinatum*, as the old chronicle terms it), showing how early was the introduction of a feature which afterwards became the formative principle of the whole Gothic style, and as essentially its characteristic as the pillars and entablatures of the five orders were the characteristics of the classical styles of Greece and Rome. It is essential to remark this, and to bear it in mind even here; for in all the subsequent remarks on Gothic architecture, it is this necessity for a stone roof that was the problem to be solved by the architects, and to accomplish which the style took almost all those forms which are so much admired in it.

From this example of the Carlovingian era we are obliged to pass to the 11th and 12th centuries, the great building age of the Gothic nations. It is true, nevertheless, that there is scarcely a single important church in Pavia, in Verona, or indeed in any of the cities of Lombardy, whose original foundation cannot be traced back to a much earlier period. Before the canons of architectural criticism were properly understood, antiquaries were inclined to believe that in the edifices now existing they saw the identical edifices erected during the period of the Lombard sway. Either, however, in consequence of the rude construction of the earlier buildings, or because they were too small or too poor for the increased population and wealth of the cities at a later period, every one of those original churches has disappeared and been replaced by a larger and better constructed edifice, adorned with all the improvements which the experience of centuries had introduced into the construction of religious edifices.



409. Plan of San Antonio, Piacenza. From Osten.[1] Scale 100 ft. to 1 in.

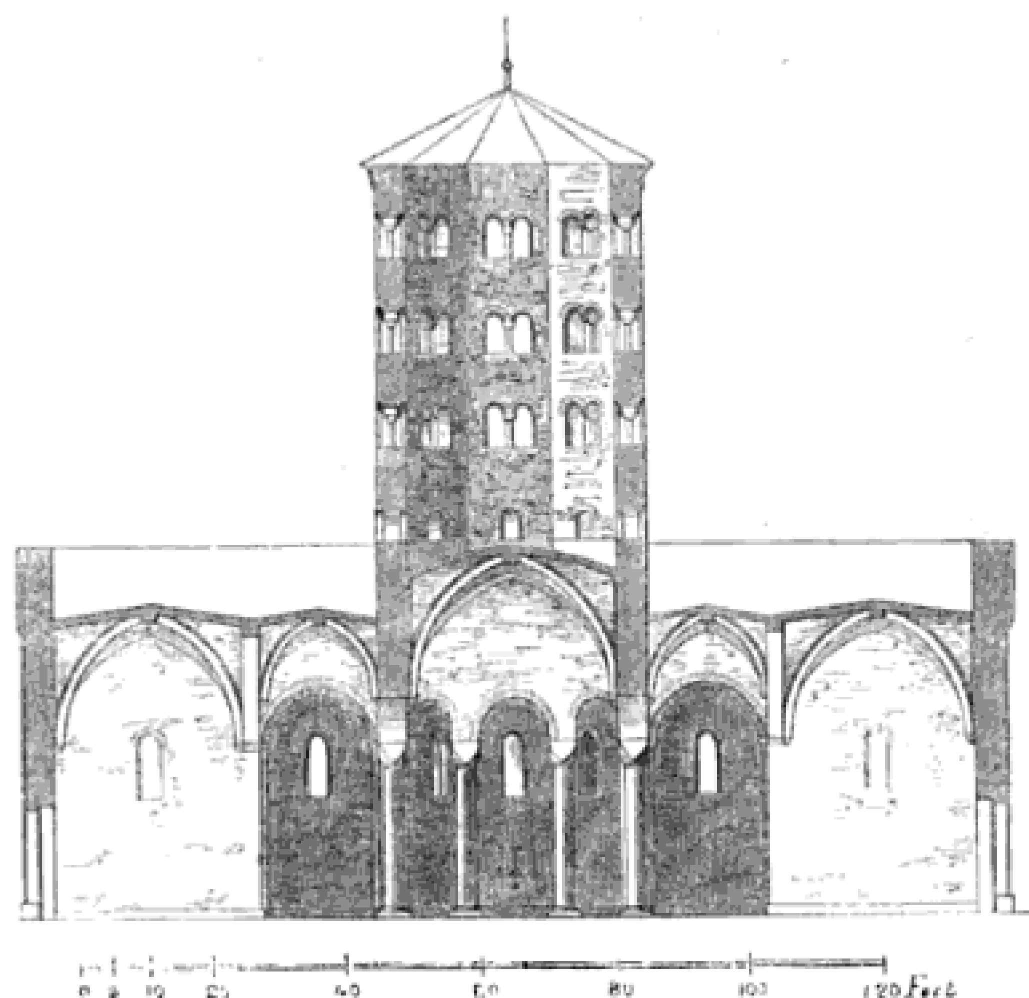
Judging from the rudeness of the earliest churches which we meet with erected in the 11th century, it is evident that the progress that had been made, up to that period, was by no means equal to what was accomplished during the next two centuries.

This will appear from the plan and section of St. Antonio at Piacenza (woodcuts Nos. 409 and 410), built in the first years of the 11th century, and dedicated in the year 1014 by the bishop Siegfried.

Its arrangement is somewhat peculiar, the transepts being near the west end, and the octagonal tower rising from the intersection sup-

[1] Frederick von Osten, Bauwerke in der Lombardei.—Darmstadt, 1852.

ported on 8 pillars, and the square completed by 4 polygonal piers. The principal point, however, to observe is, how completely the style has emancipated itself from all Roman tradition. A new style has grown up as essentially different from the Romanesque as is the style of Cologne or York cathedral. The architect is once more at liberty to work out his own designs without reference to anything beyond the exigencies of the edifices themselves. The plan indeed is still a reminiscence of the Romanesque; but so are all the plans of Mediæval cathedrals, and we may trace back the forms of the pillars, of the piers, and the arches they support, to the preceding style. All these are derived from Roman art, but the originals are forgotten, and the new style is wholly independent of the old one. The whole of the church too is roofed with intersecting vaults, which have become an integral part of the design, giving it an essentially Gothic character. On the outside buttresses are introduced, timidly, it is true, but so frequently, that it is evident that there is already no objection to increase either their number or their depth, as soon as additional strength is required for wider arches.



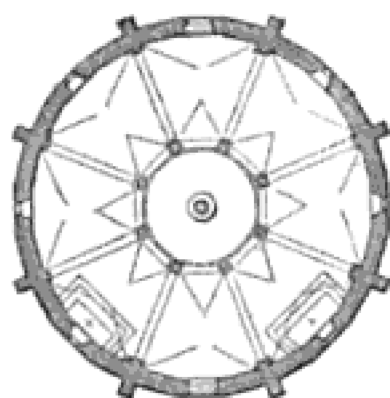
410. Section of Church of San Antonio at Piacenza. From Osten.

The windows, as in all Italian churches, are small, for the Italians never patronized the art of painting on glass, always preferring frescoes or paintings on opaque grounds. In their bright climate, very small openings were all that were required to admit a sufficiency of light to produce that shadowy effect which is so favourable to architectural grandeur.

Being a parochial church, this building had no baptistery attached to it; but there is one at Asti so similar in style and age, that its plan and section, with those of San Antonio, will give a very complete

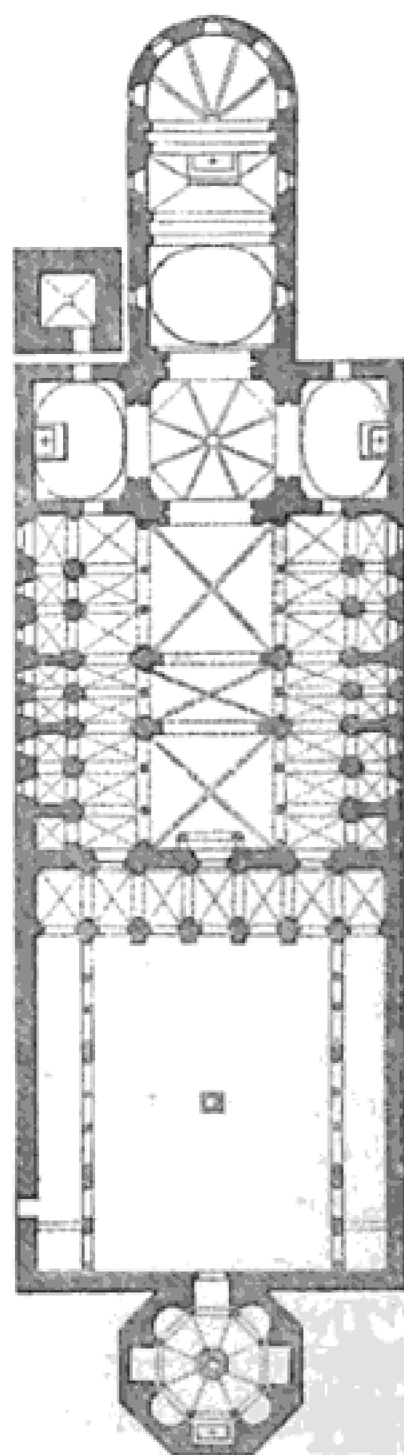
idea of Lombard architecture in the beginning of the 11th century, when it had completely shaken off the Roman influence, but had not yet begun to combine the newly invented forms with that grace and beauty which mark the more finished examples of the style. A peculiarity of this building is the gloom that reigns within, there being absolutely no windows in the dome, and those in the aisles are so small, that even in Italy the interior must always have been in comparative darkness.





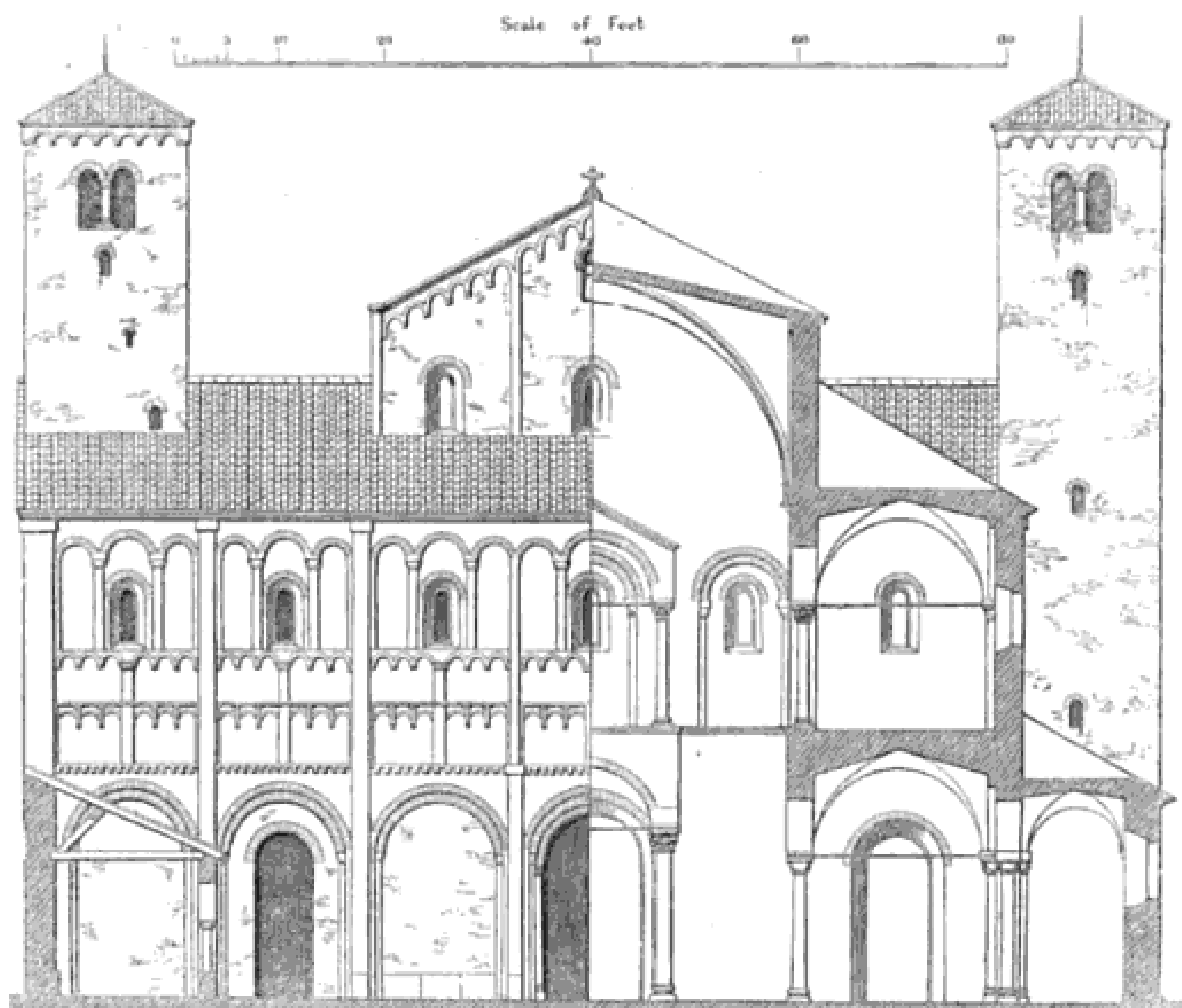
411. Section and Plan of Baptistery at Asti. From Osten. Scale 50 ft. to 1 in.

The cathedral of Novara, which in its present state is one of the most important buildings of the 11th century in the north of Italy, shows the style still further advanced. The coupling and grouping of piers are there fully understood, and the divisions of the chapels which form the outer aisle are in fact concealed buttresses. The Italians were never able to divest themselves of their partiality for flat walls, and never used bold external projections, as was universally done on the other side of the Alps. They had therefore recourse to this expedient to conceal them; and when this was not available they used metallic ties to resist the thrust of the arches—an expedient which is found even in this example. As will be seen from the plan (woodcut No. 412), it retains its atrium connecting the basilica with the baptistery, which seems to have been the almost universal arrangement in these early times. The following half-section half-elevation of the front shows very distinctly how far the invention of the new style had then gone; for except some Corinthian pillars, borrowed from an older edifice, no trace of Romanesque architecture is to be found here. The design of the façade explains what it was that suggested to the Pisan architects the form to which they adapted their Romanesque details. In both styles the arcade was the original model from which the whole system of ornamentation was taken. Here it is used first as a discharging arch, then as a mere repetition of a useful member, and lastly without pillars, as a mere ornamental string-course,



412. Plan of the Cathedral at Novara. Scale 100 ft. to 1 in.

which afterwards became the most favourite ornament, not only in Italy, but throughout all Germany.



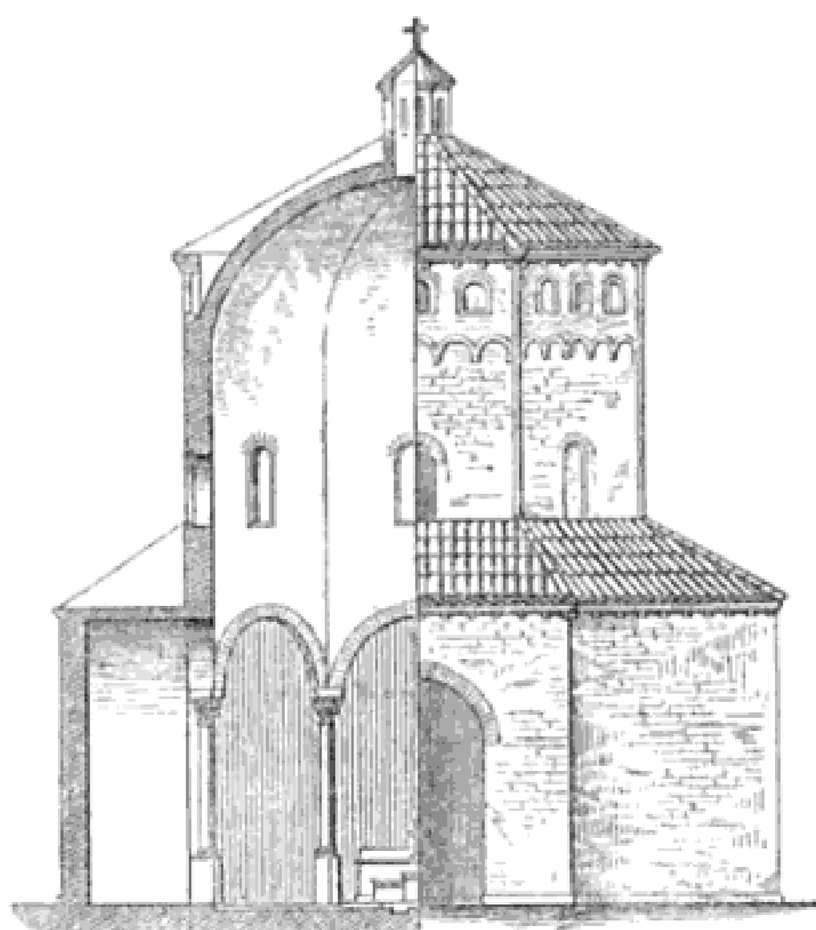
413. Elevation and Section of the Façade of the Cathedral at Novara. From Osten.

Interesting as such an example as this is to the architectural antiquary who is tracing back and trying to understand the forms of a new style, it would be difficult to conceive anything much uglier and less artistic than such a façade as this of Novara or that of San Antonio, last quoted. Their sole merit is their history and their expression of rude energy, so characteristic of the people who erected them.

The baptistery is of older date than the cathedral, probably anterior to the age of Charlemagne; and if it had any features which could properly be called architectural, it ought perhaps to rank among Romanesque buildings. In plan it certainly belongs to that class. Its chief point of interest, however, is that it contains the germ of those external galleries under the roof which form not only one of the most common but certainly the most beautiful feature of the class of buildings of which we are now treating.

From the elevation (woodcut No. 414) it will easily be seen what was the motive and use of this arrangement, the first trace of which dates perhaps as far back as the baptistery at Nocera (woodcut No. 391) quoted above; for wherever a wooden roof was placed over a circular vault, it is evident that the external walls must be carried up higher than the springing of the arch. But it was by no means necessary that this additional wall should be so solid as that below, and it was neces-

sary to introduce light and air into the space between the stone and the wooden roofs. We may add to this the incongruity of effect in placing a light wooden roof covered with tiles on a massive solid wall: not only therefore did the exigencies of the building, but the true principles of taste, demand that this part should be made as light as possible. Such openings as these found in the baptistery at Novara suggested an expedient which provided for these objects. This was afterwards carried to a much greater extent. At first, however, it seems only to have been used under the roofs of the domes with which the Italians almost universally crowned the intersections of their naves with the transepts, and round the semidomes of the apses; but so enamoured did they afterwards become of this feature, that it is frequently carried along the sides of the churches, under the roof of the nave and of the aisles, and also—where the taste of it is more questionable—under the sloping eaves of the roof of the principal façade.

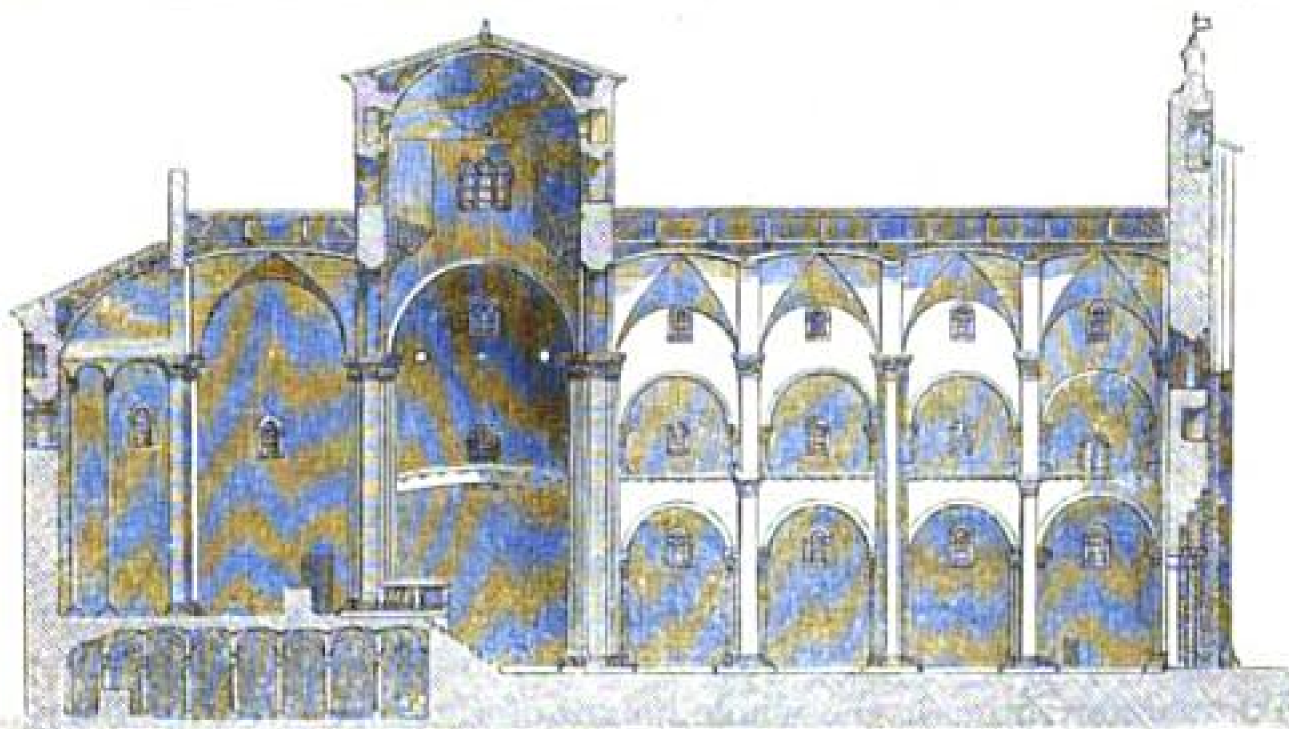


414. Half Section, half Elevation, of the Baptistery at Novara. From Osten. No scale.

There is nothing in the style of which we are now speaking either so common or so beautiful as these galleries. These arcades have all the shadow which a cornice gives without its inconvenient projection, and the little shafts with the elegant capitals and light archivolts have a sparkle and brilliancy which no cornice ever possessed. Indeed, so beautiful are they, that we are not surprised to find them so universally adopted; and their discontinuance when the pointed style was introduced was one of the greatest losses sustained by architectural art in those days. It is true they would have been quite incompatible with the thin walls and light piers of the pointed styles; but it may be safely asserted that no feature which those new styles introduced was equally beautiful with these galleries which they superseded.

The church of San Michele of Pavia, which took its present form either at the end of the 11th or beginning of the 12th century, is one of the most interesting of this age, and presents in itself all the features of a perfect round-arched Gothic church. Indeed there is hardly any feature worth mentioning which was invented after this date except the pointed arch (which was a very doubtful improvement) and window tracery, which the Italians never cordially adopted or understood. The section given in woodcut No. 415 shows its general

arrangement, from which it will be seen that well-marked vaulting-shafts spring from the floor to the roof, that the pier arches in the wall are perfectly distinct and well-understood features, that the angles of the piers are softened and ornamented by shafts and other ornamental



415. Section of San Michele, Pavia. From Agincourt. No scale.



416 View of the Apse of San Michele, Pavia. From Dusommerard, les Arts au Moyen Age.

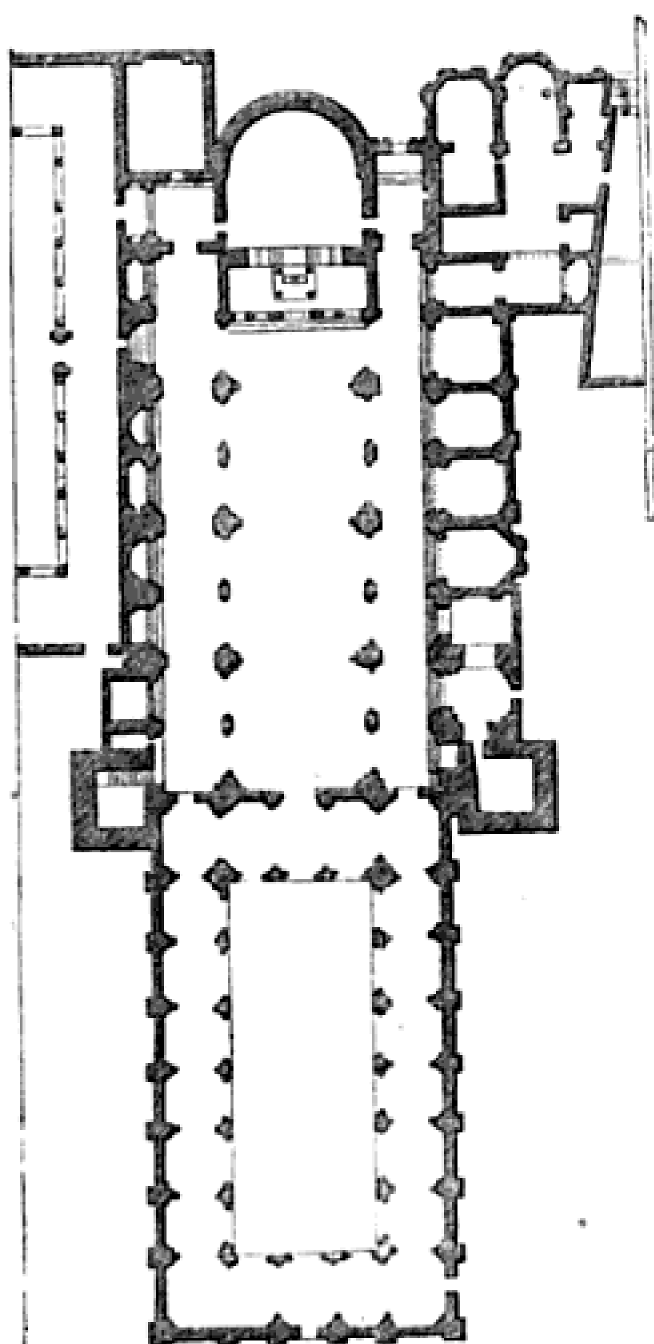
arrangements. Altogether, it is evident that that subdivision of labour (if I may use the expression) which was so characteristic of the true Gothic style had here been perfectly understood, every part having its own function and telling its own story. It only now required a little experience to point out what were the best and most agreeable proportions, not only as to size, but as to solidity, to complete the style. In a century from the date of this church the required progress had been made, and a century after that time it had been carried too far, and the artistic value of the style was lost in mere masonic excellence. San Michele and the other churches of its age fail principally from over-heaviness of parts and a certain clumsiness in construction, which, though not without its value as an expression of power, wants the refinement necessary for a true work of art. Externally, one of the most pleasing features of this church is the apse with its circular gallery. Usually in Italian churches the gallery is a simple range of similar arcades; here, however, it is broken into three great divisions by coupled shafts springing from the ground, and these again are subdivided by single shafts running in like manner through the whole height of the apse. The gallery thus not only becomes a part of the whole design, instead of looking as if it might have been added as an afterthought, but an agreeable variety is also given, which adds not a little to the pleasing effect of the building.

Besides this, there are at least two other churches in Pavia which, though altered in many parts, retain their apsidal arrangements tolerably perfect. One of these, that of San Teodoro, may be somewhat older than the San Michele, and has its gallery divided into triplets of arcades by bold flat buttresses springing from the ground. The other, San Pietro in Cielo d'Oro, is considerably more modern, the arcade being omitted round the apse, though introduced in the central dome. It has besides two subordinate apses of graceful design, though inferior to the older examples.

Though Milan must have been rich in churches of this age, the only one that now remains tolerably entire is San Ambrogio, which is so interesting a church as almost to make amends for its singularity. Historical evidence shows that a church did exist here from a very early age. This was rebuilt in the 9th century by Anspertus, a bishop of the time, aided by the munificence of Louis the Pious; but except the apse and the older of the two towers—that of the canons—nothing remains of even that church, all the rest having been rebuilt in the 12th century. The vaulting of the church, which is singularly clumsy, and clumsily fitted to the substructure, is the work of the 13th century.

The disposition of this church will be understood from the following plan, which shows the atrium as well as the church, the former being virtually the nave. In other words, had the church been erected on the colder and stormier side of the Alps, a clerestory would have been added to the atrium, and it would have been roofed over; and then the plan would have been nearly identical with that of one of our

Northern cathedrals. If, besides this, there had been a baptistery at the western entrance, as at Novara, Piacenza, or Torcello, we should then have had a building with two apses—a complete German cathedral. As it is, the atrium (woodcut No. 418) is a singularly pleasing adjunct to the façade, removing the church back from the noisy world outside, and by its quiet seclusion tending to produce that devotional feeling so suitable to the entrance of a church. The façade of the building itself, though, like the atrium, only in brick, is one of the best designs of its age, the upper loggia or open gallery of five bold but unequal arches spaced equally with those below, producing more shadow than the façade at Pisa, without the multitude of small parts there crowded together, and with far more architectural propriety and grace. As seen from the atrium with its two towers, one on either flank, it forms a composition which is not surpassed by any other in this style, so far as I know.



417. Plan of San Ambrogio, Milan. From Ferrario. Scale 100 ft. to 1 in.

Owing to the bad arrangement of the vaulting, the internal architecture of the church is hardly worthy of that of the exterior; but it is a perfect museum of ecclesiological antiquities of the best class. The silver altar of Angilbertus (A.D. 835) is unrivalled either for richness or beauty of design by anything of the kind known to exist elsewhere, and the *baldachino* that surmounts it is also of singular beauty; so are some of its old tombs of the earliest Christian workmanship. Its mosaics, its pulpit, and the bronze doors, not to mention the brazen serpent, said to be the very one erected by Moses in the wilderness, and innumerable other relics, make this church one of the most interesting of Italy, if not indeed of all Europe.

Generally speaking, the most beautiful part of these Lombard churches is their eastern ends. The apse with its gallery, the transepts, and above all the dome that almost invariably surmounts their intersection with the choir, constitute a group which always has a pleasing effect, and very often is highly artistic and beautiful. The sides, too, of the nave are often well designed and appropriate; but, with scarcely a single exception, the west end, or entrance front, is comparatively mean. The building seems to be cut off at a certain length without any appropriate finish, or anything to balance the



418. Atrium of San Ambrogio, Milan. From Ferrario.[1]

bold projections towards the east. The French cathedrals, on the contrary, while they entirely escape this defect by means of their bold western towers, are generally deficient in the eastern parts, and almost always want the central dome or tower. The English Gothic architects alone understood the proper combination of the three parts. The Italians, when they introduced a tower, almost always used it as a detached object, and not as a part of the design of the church. In consequence of this the façades of their churches are frequently the least happy parts of the composition, notwithstanding the pains and amount of ornament lavished upon them.

The elevation of the cathedral at Piacenza (woodcut No. 419) is a fair illustration of the general mode of treating the western front of the building, not only in the 11th and 12th centuries, but afterwards, when a church had a façade at all, for the Italians seem to have been seldom able to satisfy themselves with this part of their designs, and in consequence a great many of their most important churches have not even now been completed in this respect.

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[1] Ferrario, Monumenti Sacri e Profani dell' I. R. Basilica di S. Ambrogio. Milan, 1824.

Instead of recessing their doors, as was the practice on this side of the Alps, the Italians added projecting porches, often of considerable depth, and supported by two or more slight columns generally resting on the backs of symbolical animals. No part of these porches, as an architectural arrangement, can be deemed worthy of any commendation; for in the first place, a column planted on an animal's back is an anomaly and an absurdity, and the extreme tenuity of the pillars, as compared with the mass they support, is so glaring that even its universality fails in reconciling the eye to the disproportion. In the present instance the porch is two stories in height, the upper being a niche for sculpture. Its almost exact resemblance to the entrance porch below is therefore a defect. Above there is generally a gallery, sometimes only in the centre; sometimes, as in this instance, at the sides, though often carried quite across; and in the centre above this



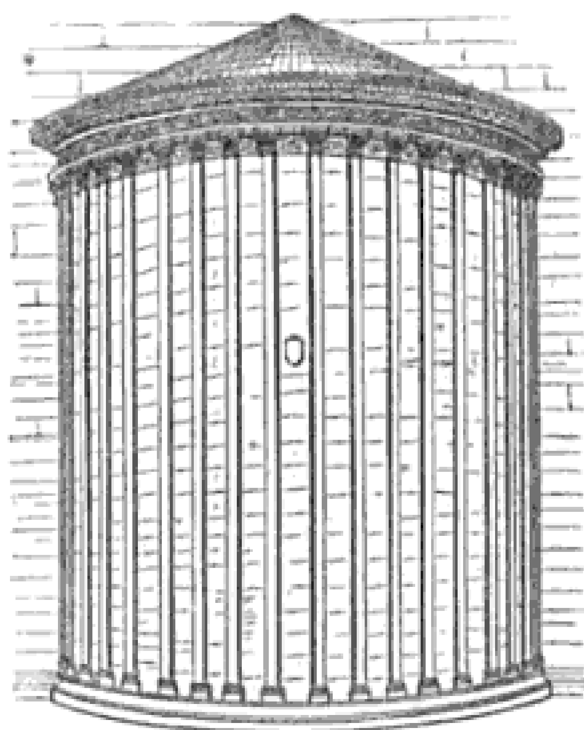
419. Façade of the Cathedral at Piacenza. From Chapuy, Moyen Age Monumental.

there is almost invariably a circular window, the tracery of which is frequently not only elaborately but beautifully ornamented with foliage and various sculptural devices.

Above this is here, and in many other instances, one of those open galleries mentioned before, following the slope of the roof, though frequently this is replaced by a mere belt of semicircular arches, suggesting an arcade, but in reality only an ornament.

Verona.

Almost every important city in Lombardy shows local peculiarities in its style, arising from some distinction of race or tradition. The greater number of these must necessarily be passed over in a work like the present, but some are so marked as to demand particular mention. Among these that of Verona seems the most marked and interesting. This Roman city was the favourite capital of Theodoric the Goth—Dietricht of Berne, as the old Germans called him—and was by him adorned with many noble buildings which have either perished or been overlooked. There is a passage in the writings of his friend Cassiodorus which has hitherto been a stumbling-block to commentators, but seems to find an explanation in the buildings here, and to point to the origin of a mode of decoration worth remarking upon. In talking of the architecture of his day he speaks of "the reed-like tenuity of the columns making it appear as if lofty masses of building were supported on upright spears, which in regard to substance look like hollow tubes."[1] It might be supposed that this referred exclusively to the metal architecture of the use of which we find traces in the paintings at Pompeii and elsewhere.[2] But the context hardly bears this out, and it is probable he refers to a stone or marble architecture, which in the decline of true art had aspired to a certain extent to imitate the lightness which the metallic form had rendered a favourite.



420. Apse of the Cathedral, Verona. From Hope's History of Architecture.

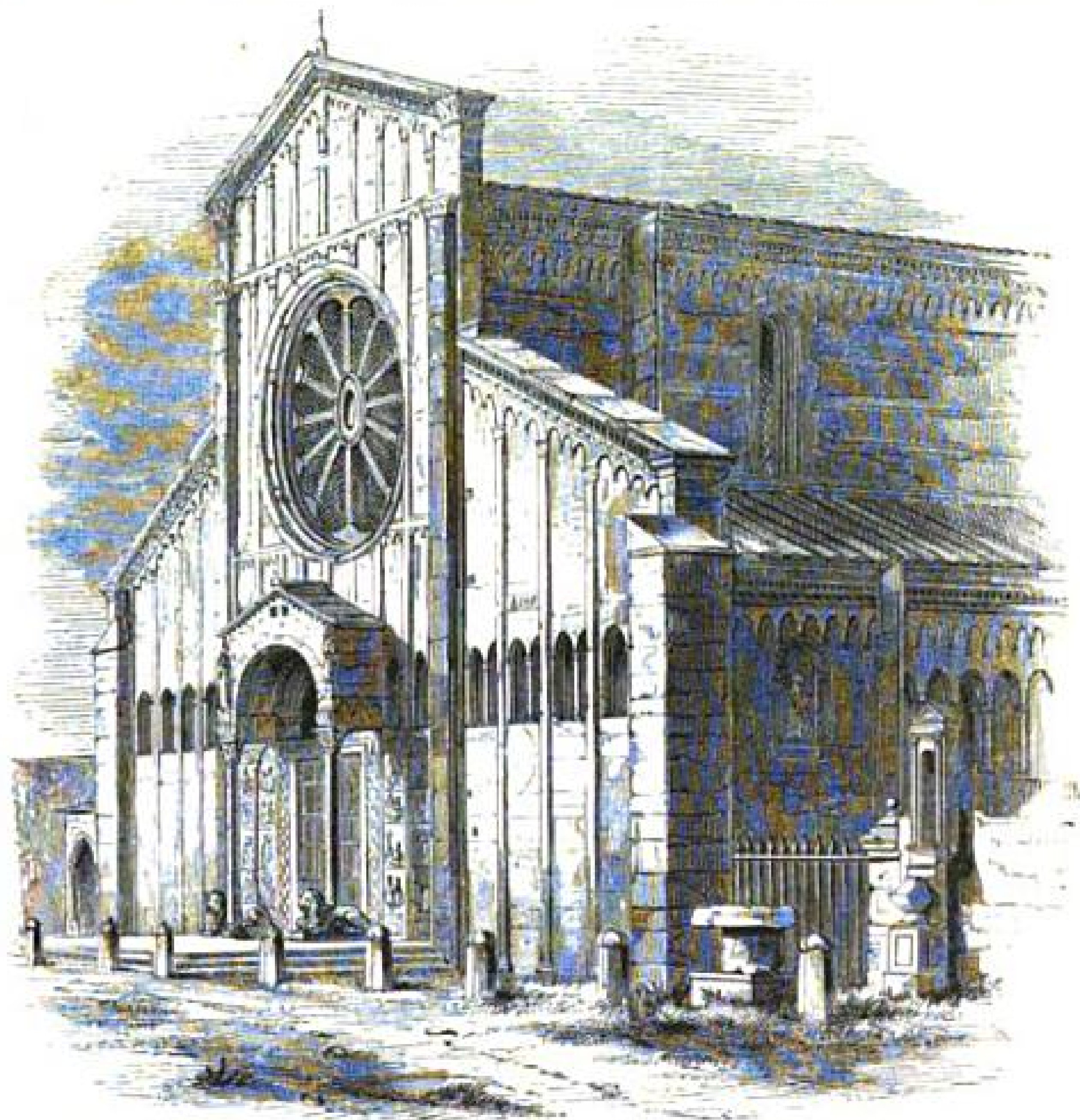
To return to Verona:—The apse of the cathedral seems to have belonged to an older edifice than that to which it is now attached, as was often the case, that being the most solid as well as the most sacred part of the building. As seen in the woodcut (No. 420), it is orna-

[1] "Quid dicamus columnarum junceam proceritatem? Moles illas sublimissimas quasi quibusdam erectis hastilibus contineri substantiæ qualitate concavis canalibus excavatas vel magis ipsas æstimes esse transfusas. Cæris judices factum quod metallis durissimis videas expolitum. Marmorum juncturas venas dicas esse genitales ubi dum falluntur oculi laus probatur crevisse miraculis." In the above *metallum* does not seem to mean metal as we now use the word, but any hard substance dug out of the ground.—Cassiodorus variorum, lib. vii. ch. 15.

[2] See p. 363.

mented with pilasters, classical in design, but more attenuated than any found elsewhere; so that I cannot but believe that this is either one of the identical buildings to which Cassiodorus refers, or at least an early copy from one of them.

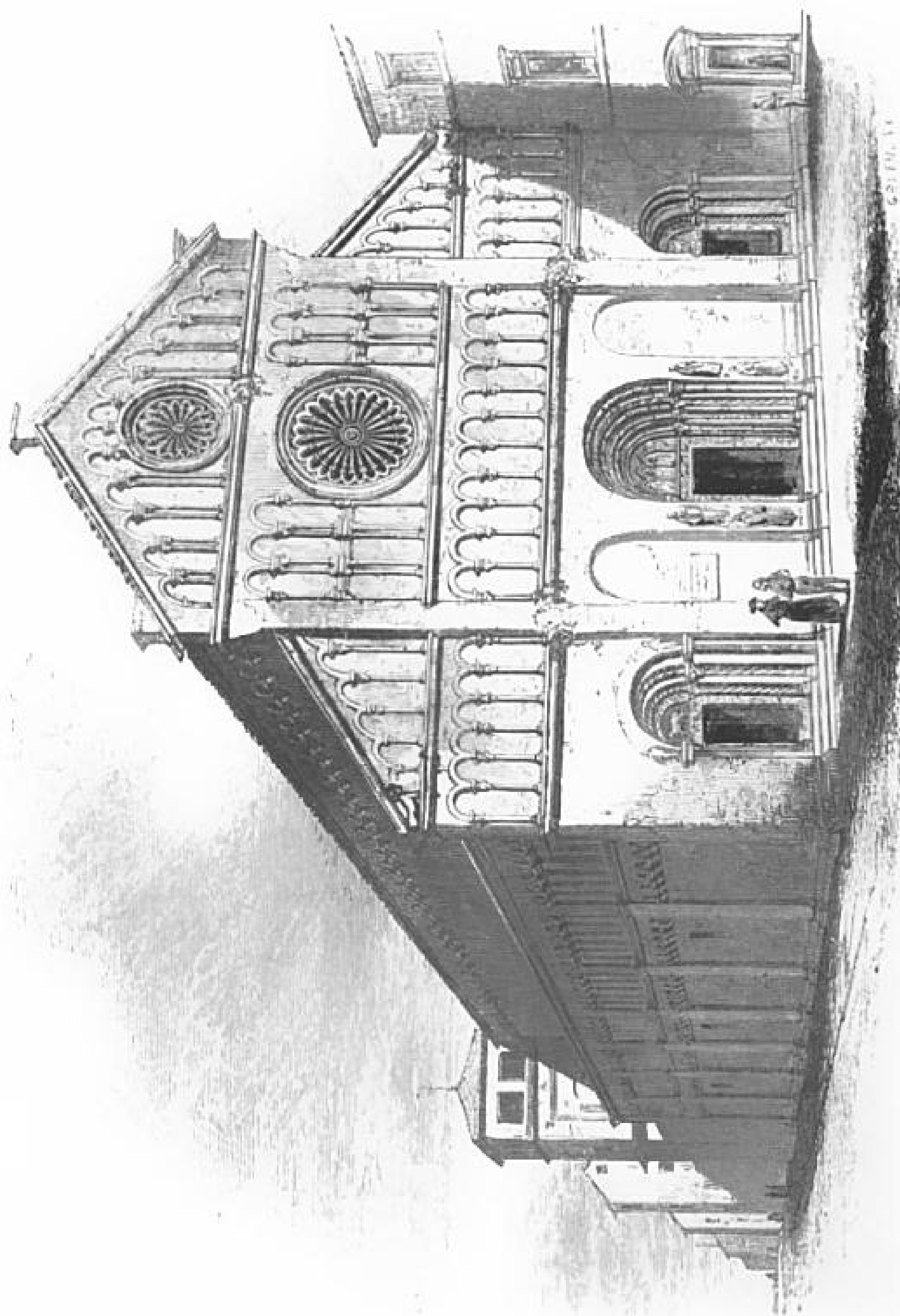
At a far later age, in the 12th century, the beautiful church of San Zenone shows traces of the same style of decoration—pilasters being used here almost as slight as those last mentioned, but so elegant and so gracefully applied as to form one of the most pleasing decorations of the style. Once introduced, it was of course repeated in other buildings, but seldom carried to so great an extent or employed so gracefully as in this instance. Indeed, whether taken internally or externally, San Zenone may be regarded as one of the most pleasing and perfect examples of the style to be found in the north of Italy.



421. Façade of San Zenone, Verona. From Chapuy.

It is wandering a little out of the geographical, though not out of the architectural, province of which we are speaking, to refer to the cathedral at Zara in Dalmatia, erected by Enrico Dandolo (1192-1204). This building presents a singularly pleasing specimen of the style. The central division being well marked, it avoids the flatness of such buildings as the cathedral of Piacenza, and of so many others in this style; and the arcades being mere ornaments, it escapes from the anomalies of the Pisan style, though it is easy to see that the two

styles are derived from the same original—the difference being that the cathedral of Pisa is a Romanesque, that of Zara a Gothic, modification of one style of architecture, the latter being by far the more consistent and satisfactory.



422. View of Zara Cathedral. From Sir Gardner Wilkinson's 'Dalmatia and Montenegro.'

The cathedral at Modena is another good example of this style, though not possessing any features of much novelty or deserving special mention. That of Parma is also important, though hardly so pleasing.

Indeed scarcely any city in the valley of the Po is without some more or less perfect churches of this date, but none showing any important peculiarities that have not been exemplified above, unless perhaps it is the apse of the church of San Donato on the Murano near Venice, which is decorated with a richness of mosaic to which the purer Gothic style never attained, and which entitles this church to rank rather with the Byzantine than with the Gothic buildings of which we are treating.

It is extremely difficult to draw a line between the pointed and round arched Gothic styles in Italy—the former was so evidently a foreign importation, so unwillingly received and so little understood, that it made its way but slowly. Even, for instance, in the church at Vercelli, which is usually quoted as the earliest example of the pointed style in Italy (built 1219-1222), there is not a pointed arch nor a trace of one on the exterior. All the windows and openings are round-headed, and, except the pier-arches and vaults, nothing pointed appears anywhere. Even at a later date than this the round arch, especially as a decorative form, frequently is placed above, and always used in preference to the pointed one. Instead therefore of attempting to draw a line where none in reality exists, it will be better to pass on from this part of the subject now, and, on returning to Italy, to take up the older style at that point from which we can best trace the formation of the new. The latter does not essentially differ from the former, except in the introduction of the foreign French form of the pointed arch and its accompaniments, and this cannot well be understood without first explaining how it rose in France. It remains only to say a few words on the peculiarities which the round form of churches took in the hands of the early Lombard architects, and also a few words on the campanile, which forms so striking a feature in the cities of the north of Italy.

Circular Churches.

In the earliest times of Christian architecture, as has been already seen, the circular form of church was at least as frequent as that derived from the Roman basilicas. The latter description was found in process of time much better adapted to the extended circumstances of Christianity. Hence in the 11th and 12th centuries, when so many of the early churches were rebuilt and enlarged, most of the old circular buildings disappeared. Still enough remain to enable us to trace, though imperfectly, what their arrangements were.

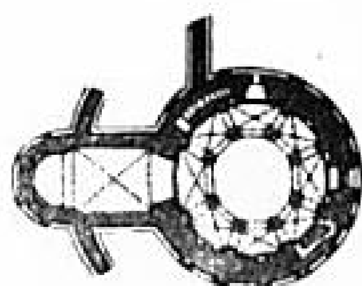
Among those which have been illustrated, perhaps the most interesting is that now known as the church of San Stephano at Bologna, or rather the circular centre of that congeries of seven churches usually known by that name.

It is one of those numerous churches of which it is impossible to predicate whether it was originally a baptismal or a sepulchral edifice. In old times it bore both names, and may have had both destinations, but latterly, at all events, the question has been settled by the com-

promise usually adopted in such cases, of dedicating it to the first martyr, to whom a sepulchral form is especially appropriate.

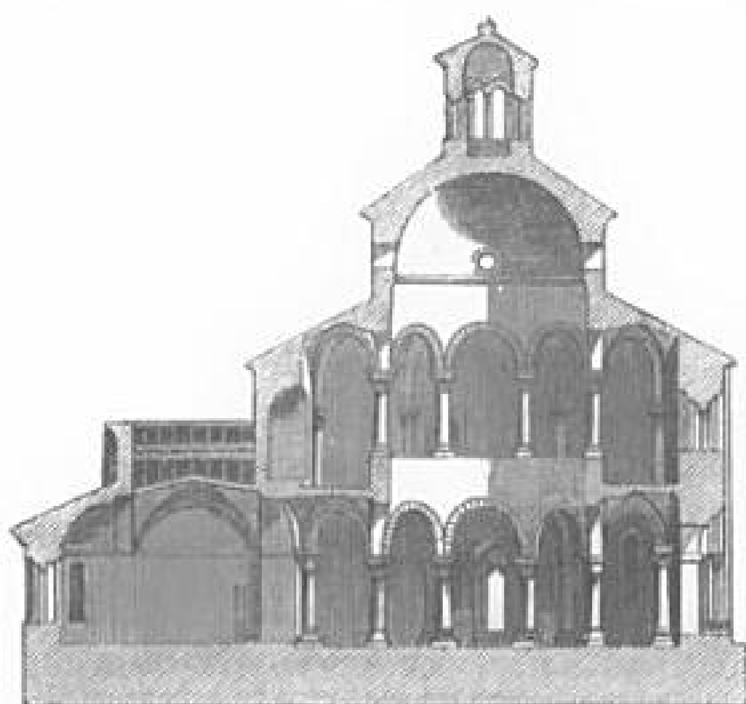
Notwithstanding a considerable amount of ancient remains mixed up in the details, no part of the present church seems older than the Carlovingian era; while, on the other hand, its extreme irregularity and clumsiness of construction point to a period before the 11th century. Its general form is that of an extremely irregular octagon, about 60 ft. in diameter, in the centre of which stands a circlet of columns, some coupled, some single, supporting a semicircular dome. The circumscribing aisle is covered with the usual intersecting ribbed vault of the 10th century, but the whole is so rude as scarcely to deserve mention except for its antiquity.

At Brescia there are two circular churches — one, the Duomo Vecchio, may be, at least the lower part of it, of very considerable antiquity, but the upper part has certainly been rebuilt at a more modern epoch. The other, the church of Sta. Julia, assumes the octagonal form above, and, as it at present stands, cannot be dated earlier than the 12th century: both, however, are small, and, though interesting, can hardly be called important. A better specimen than either of these is the church of San Tomaso in Limine, near Bergamo, which shows the style in all its completeness. From the annexed plan it will be seen that the circular part is the nave or entrance part, as in Germany and England, as contradistinguished from the French mode of arrangement, where the circular is always the sanctum, the rectangular the nave or less holy place.



423. San Tomaso in Limine. Scale 100 ft. to 1 in.

The general plan of this example is circular. It is not more than 30 ft. across internally. In the centre stand 8 pillars, supporting a vaulted gallery, forming a triforium or upper story, which, with the dome and its little cupola, raises the whole height to about 50 ft. A small choir with a semicircular niche projects, as will be seen, to the eastward.



424. San Tomaso. From Isabelle, Edifices Circulaires. Scale 50 ft. to 1 in.

The dimensions of the building are so small, that it hardly deserves notice, except as a perfect example of the style of the 11th or 12th century in Lombardy, and from a certain propriety and elegance of design, in which it is not surpassed, internally at least, by any building of its age. We must regret that the idea was never carried out (at any rate we have no example of its being so) on such a scale as to enable us to judge of the effect of such

a domical arrangement as is here attempted. The great defect of all one-storied domes is their lowness, both internally, and more especially externally. The method of building domes in two stories, as here, would seem calculated to obviate this objection; but though common in small sepulchral chambers, it has never been tried on a sufficiently large scale to enable us to judge of its real effect. After this period the circular shape was so completely superseded by the rectangular, that no further improvement took place in the former.

Campaniles.

There is no architectural feature which the Gothic architects can so justly call their own as the towers and spires which in the middle ages were not only so favourite, but so indispensable a part of their churches and other edifices, becoming in fact as necessary parts of the design externally, as the vaults were of the internal decoration of the building.

It is true, as before remarked, that we neither know where they were first invented, nor even where they were first used as applied to Christian churches—those of Rome or Ravenna being evidently not the earliest examples; and what is still more unfortunate, they have no features which betray their origin, at least none have yet been pointed out, though it is by no means impossible that a closer examination would bring some such to light. They certainly are as little classical, both in their forms and details, as anything can well be conceived to be; nor can the very name of Romanesque be considered entirely appropriate, though we are compelled to use it as marking the age and locality in which they occur.

Those of which we have already spoken are all church towers, *campaniles* or bell-towers attached to churches. But this exclusive distinction seems by no means to apply to the Gothic towers. The tower of St. Mark at Venice, for instance, and the Toraccio at Cremona, are evidently civic monuments, like the belfries of the Low Countries—symbols of communal power wholly distinct from the church, their juxta-position to which seems only to be owing to all the principal buildings being grouped together. This is certainly the case with a very large class of very ugly buildings in Italy, such as those attached to the town-halls of Florence and Sienna, or the famous Assinelli and Garisenda towers at Bologna. These are merely tall square brick towers, with a machicolated balcony at the top, but possessing no more architectural design than the chimney of a cotton factory. Originally, when lower, they may have been towers of defence, but afterwards became mere symbols of power.

There is a third class, and by far the most numerous, which are undoubtedly ecclesiastical erections; they are either actually attached to the churches, or so placed with regard to them as to leave no doubt on the matter. There is not, however, I believe, in all Italy, a single example of a tower or towers used, as on this side of the Alps, as integral parts of the design.

Sometimes they stand detached, but more generally are attached to

some angle of the building, the favourite position being the western angle of the southern transept. Sometimes we find one tower placed at the angle of the façade, but this is seldom the case when the tower and the church are of the same age. It is so in the cathedral at Lucca, and San Ambrogio at Milan; and in the latter instance a second tower has been added at a later date to balance the older one. It does also happen, as in the instance of Novara, before quoted (woodcut No. 413), that two towers are actually parts of the original design; this, however, is certainly the exception, not the rule.

In design the Italian campaniles differ very considerably from those on this side of the Alps. They never have projecting buttresses, nor assume that pyramidal form which is so essential and so beautiful a feature in the northern examples. In plan the campanile is always square, and carried up without break or offset to two-thirds at least of its intended height. This, which is virtually the whole design (for the spire seems an idea borrowed from the north), is generally solid to a considerable height, or with only such openings as serve to admit light to the stairs or inclined planes. Above this solid part one round-headed window is introduced in each face, and in the next story two; in the one above this three, then four, and lastly five, the lights being merely separated by slight piers, so that the upper story is virtually an open loggia. There is no doubt great beauty and propriety of design in this arrangement; in point of taste it is unobjectionable, but it wants the vigour and variety of the Northern tower.

So far as we can judge from drawings and such ancient examples as remain, the original termination was a simple cone in the centre, and a smaller one at each of the four angles.

At Verona an octagonal lantern is added, and at Modena and Cremona the octagon is crowned by a lofty spire, but these hardly come within the limits of the epoch of which we are now treating. So greatly did the Italians prefer the round arch, that even in their imitation of the Northern styles they used the pointed shape only when compelled. This circumstance makes it extremely difficult, particularly in the towers, to draw the line between the two styles; for though pointed arches were no doubt introduced in the 13th and 14th centuries, the circular-headed shape continued to be employed from the age of the Romanesque to that of the Renaissance.

One of the oldest, and certainly the most celebrated of the Gothic towers of Italy, is that of St. Mark's at Venice, commenced in the year 902; it took the infant republic 3 centuries to raise it 180 ft., to the point at which the square basement terminates. On this there must originally have been an open loggia of some sort, and no doubt with a conical roof. The present superstructure was added in the 16th century, and though the loggia is a very pleasing feature, it is overpowered by the solid mass that surmounts, and by the extremely ugly square extinguisher that crowns the whole. Its locality and its associations have earned for it a great deal of inflated laudation, but in point of design no campanile in Italy deserves it less. The base is a mere unornamented mass of brickwork, slightly fluted, and pierced unsym-

metrically with small windows to light the inclined plane within. Its size, its height, and its apparent solidity are its only merits. These are no doubt important elements in that low class of architectural excellence of which the Egyptian pyramids are the type; but even in these elements this edifice must confess itself a pigmy, and inferior to even a second-class pyramid on the banks of the Nile, while it has none of the beauty of design and detail displayed by the Giralda of Seville, and the other towers in its neighbourhood.

The campanile at Piacenza (woodcut No. 410) is, perhaps, more like the original of St. Mark's than any other, and certainly possesses as little beauty as any building of this sort can possess.

That of San Zenone at Verona is a far more pleasing specimen; and, indeed, is as beautiful both in its proportions and details as any of its age, possessing at once the beauties and the defects of the style. Among the first is an elegant simplicity that always is pleasing, but accompanied by a leanness and poverty of effect as compared with Northern examples, which must rank in the latter category.

The celebrated tower of the Ghirlandina at Modena is perhaps the example that enables us best to compare these Italian with the Cisalpine towers, as it possesses a well-proportioned spire which is found in few of the others.

In date it ought to belong to the second division of the subject, having been commenced in the 13th and finished in the 14th century; but as before remarked, there is no line of distinction between the round and pointed arched styles in Italy, and as this campanile seems to be wholly without any pointed forms, we may describe it here.

The whole height of the tower is about 315 ft., of which less than 200 are taken up in the square part—thus bearing a less predominant proportion to the spire than is found in any other Italian example, and evidently meant to rival the famous German spires which had become such favourites in the age in which it was built; and although it avoids many of the errors into which the excessive love of decoration and of "*tours de force*" led the Germans, still the result here is far from satisfactory. The change from the square to the octagon is abrupt and unpleasing, and the spire itself looks too thick for the octagon. Everywhere there is a want of those buttresses and pinnacles with which the Gothic architects knew so well how to prepare for a transition of form, and to satisfy the mind that the composition was not only artistically but mechanically correct. The Italians never comprehended the ultimate principle of the Gothic styles, and consequently, though they had far more elegance of mind and used better details, their works fail to satisfy almost as much as a modern classical church or museum.

The same remarks apply to the towers of Siena, Lucca, Pistoja, and indeed to all in the north of Italy: all have some points that please, but none is entirely satisfactory. None have sufficient ornament, nor display a sufficiency of design, to render them pleasing in detail, nor have they sufficient mass to enable them to dispense with the evidence of thought, and to impress by the simple grandeur of their dimensions.

CHAPTER II.

SWITZERLAND.

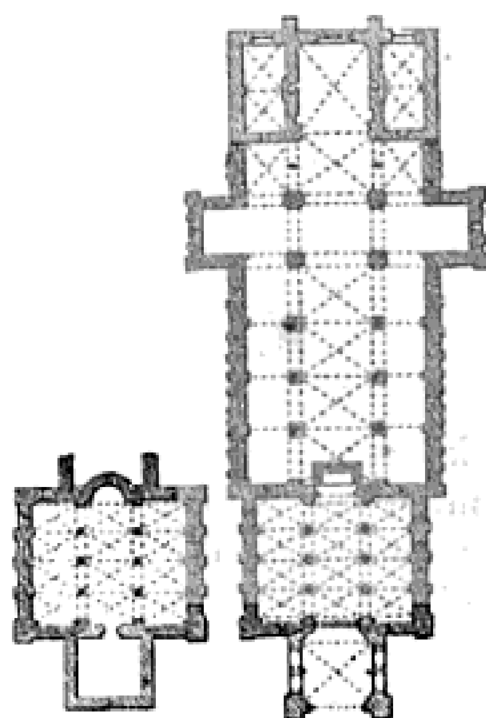
CONTENTS.

Church at Romain-Motier — Cathedral of Zurich — Ancient plan at St. Gall.

As a country lying between Italy on the one hand, and Germany on the other, and inhabited by races partaking of the characteristics of both, Switzerland ought to possess singular interest for the archæologist, more especially as its mountain fastnesses have protected it from the sudden inroads of the barbarians, and its poverty from the rebuildings, which are more fatal to the researches of the antiquarian than any destruction caused by the violence of enemies.

Hitherto tourists have been content to admire the beauties of the scenery, and it was not till the publication of the work of M. Blavignac that any means were available to the public for judging of the treasures of antiquity. The work referred to comprises only the western part of Switzerland, and the period anterior to the 11th century; still it suffices to show how rich the country is, and how much we may expect when it is more fully examined.

Among the churches illustrated in this work, one of the earliest and most interesting is that of Romain-Motier, the body of which certainly remains as it was when consecrated in the year 753. The narthex, which is in two stories, may be a century or two later, and the porch and east end are of the pointed style of the 12th or 13th centuries. The vaulting of the nave also can hardly be coeval with the original building.

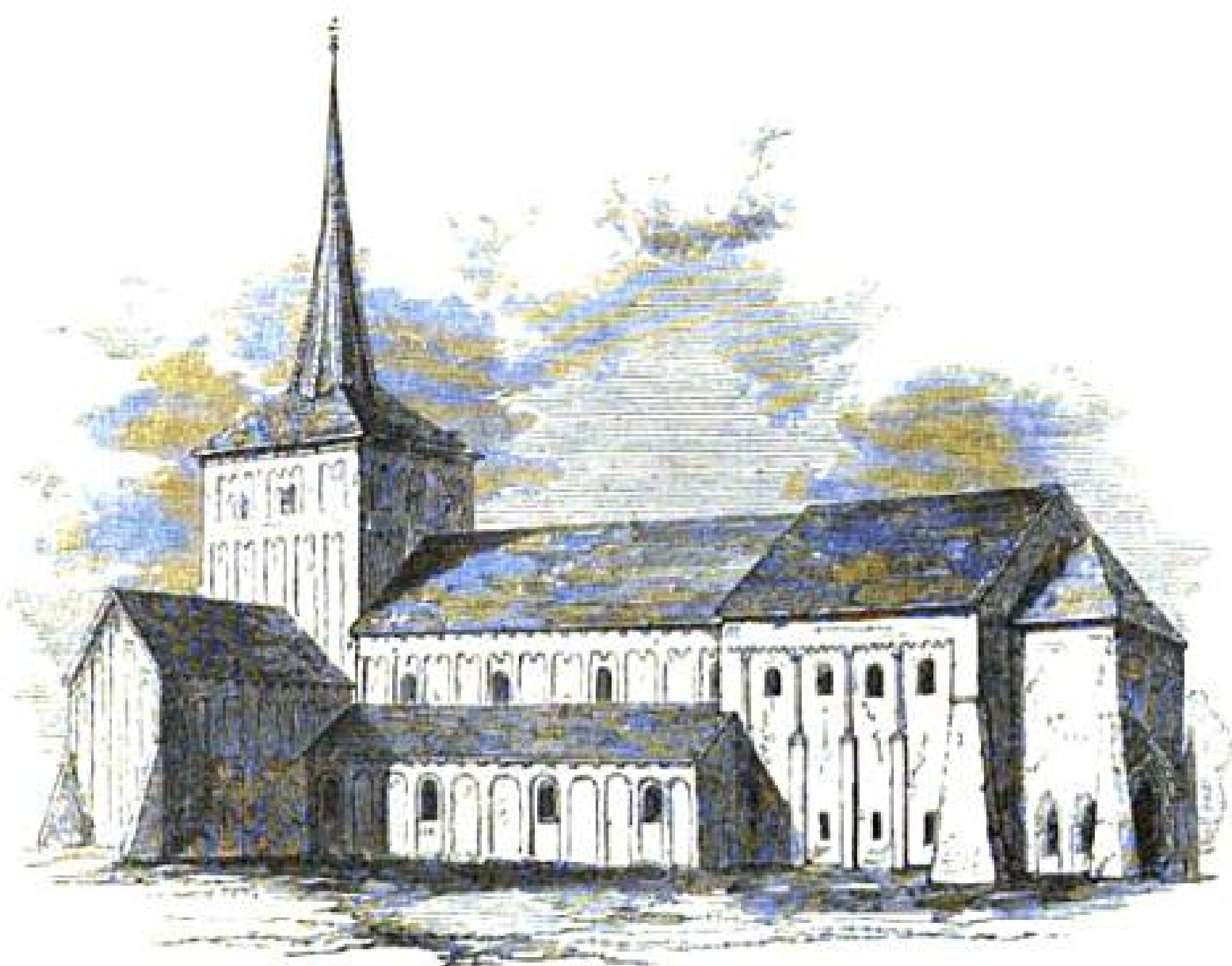


425. Plan of the Church of Romain-Motier. From Blavignac.[1] Scale 100 ft. to 1 in.

From other examples in the neighbourhood, we may safely infer that it originally terminated eastward in three apses. Supposing these to be restored, we have a church of about 150 ft. in length by 55 in width across the nave, with transepts, a tower at the intersection, and nearly all the arrangements found at a much later age, and with scarcely any details of the Romanesque style.

The external mode of decoration is very much that of the two

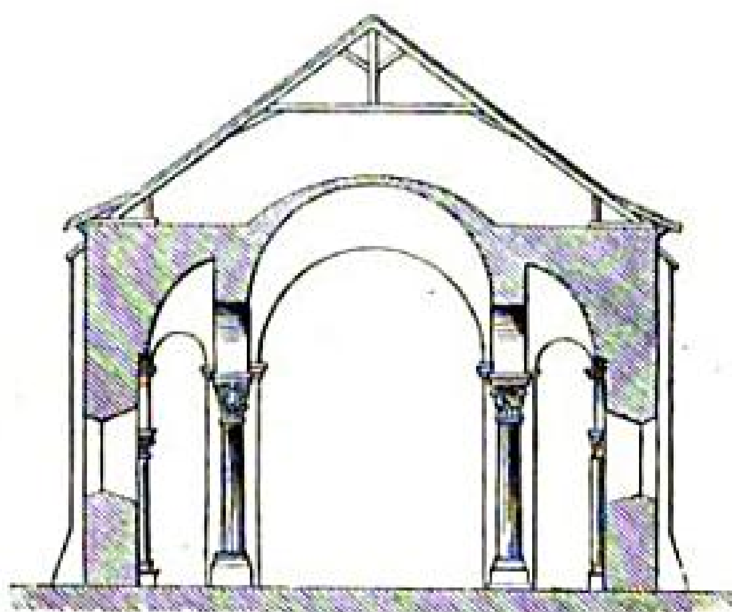
[1] Histoire de l'Architecture Sacrée du 4[e] au 10[me] Siècle dans les Evêchés de Genève, Lausanne, et Sion, 1853.



426. View of the Church of Romain-Motier. From Blavignac.

churches of San Apollinare at Ravenna, but carried one step further, inasmuch as in the upper story of the nave each compartment is divided into 2 arches, with no central support; in the tower there are 3 such little arches in each bay, in the narthex 5. This afterwards became in Germany and Italy the favourite string-course moulding.

The church of Granson, on the borders of the lake of Neufchatel, though much smaller, is scarcely less interesting. It belongs to the Carlovingian era, and like many churches of that age, has borrowed its pillars and many of its ornaments from earlier monuments. Its most remarkable peculiarity is the vault of the nave, which shows how timidly at that early period the architects undertook to vault even the narrowest spans, the whole nave being only 30 ft. wide. It is the earliest specimen we possess of a mode of vaulting which subsequently became very common in the south of France, and which, as we shall see hereafter, led to most of the forms of vaulting afterwards introduced.



427. Section of Church at Granson. From Blavignac.

The church of Notre Dame de Neufchatel, part of which is as old as from 927 to 954, presents also forms of beauty and interest. The

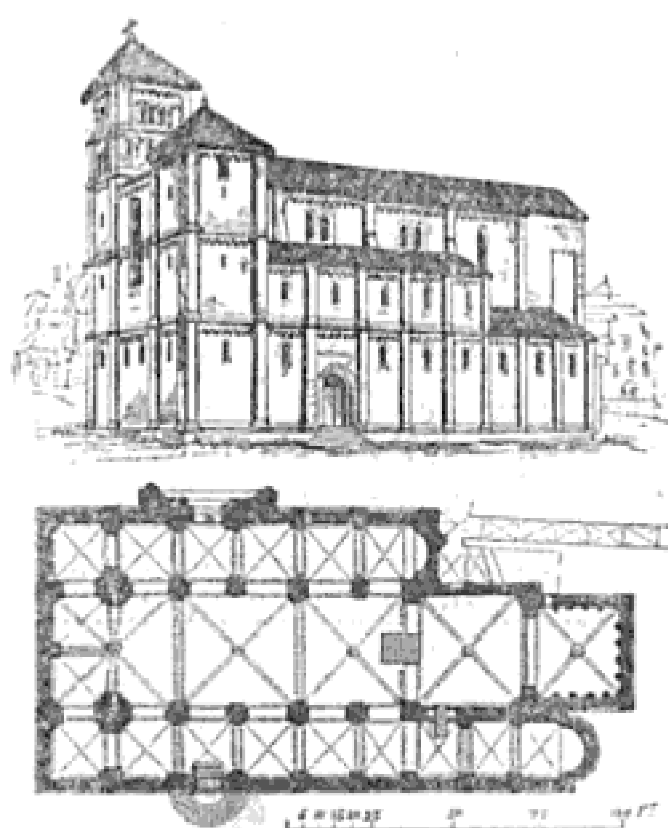
same may be said of the tower of the cathedral of Sion, which is of the same age, and of parts also of the cathedral of Geneva.

The church at Payerne is very similar in size and all its arrangements to that of Romain-Motier; but being two centuries more modern, the transition is complete, and it shows all the peculiarities of a round-arched Gothic style as completely as San Michele at Pavia, or any other church of that age.

Besides these, there are five or six other churches illustrated in M. Blavignac's work, all presenting interesting peculiarities, and from their early age very deserving of study.

One other building of a somewhat later date, the Cathedral of Zurich, of which a view and plan are given in woodcut No. 428, seems to have attracted much attention, but certainly not more than it deserves from the interest due to its architectural beauties and the elegance of its details.

Its date is not correctly known; for though it seems that a church was founded here in the time of Otho the Great, it is very uncertain whether any part of that building is incorporated in the present edifice, the bulk of which is evidently of the 11th or 12th centuries. The arrangement and details of the nave are so absolutely identical with those of San Michele at Pavia,[1] that both must certainly belong to the same epoch, as they do to the same architectural province. But in this church we meet with several German peculiarities which it may be well to draw attention to at once, as we shall have frequent occasion to refer to them hereafter.



428. View and Plan of the Cathedral at Zurich. From Vogelin.

The first of these is the absence of any entrance in the west front. Where there is an apse at either end, as is frequently the case in the German churches, the cause of this is perfectly intelligible; but the Cathedral of Zurich has not, and never had, an apse at the west end, nor can I suggest any motive for so unusual an arrangement, unless it is that the prevalence of the plan of two apses had rendered it more usual to enter churches in Germany at the side, and it was consequently adopted even where the true motive was wanting. In an architectural point of view it certainly is a mistake, and destroys half the effect of the church both internally and externally; but, as we shall afterwards see, it was very common in Germany before they learnt from the French to make a more artistic arrangement of the parts.

[1] See p. 537.

Another peculiarity is the distinct preparation for two towers at the west end, as proved by the two great piers, evidently intended to support their inner angles. Frequently in Germany the whole west end was carried up to a considerable height above the roof of the nave, and either two or three small spires placed on this frontal screen. This, however, does not appear to have been the case here; for though the two towers that now adorn it are modern, the intention seems originally to have been the same. Had they been intended to flank the portal, and give dignity to the principal entrance, their motive would have been clear; but where no portal was intended, it is curious that the Germans should so universally have used them, while the Italians, whose portals were almost as universally on their west fronts, should hardly ever have employed this arrangement.

The east end, as will be observed, is square, an arrangement not

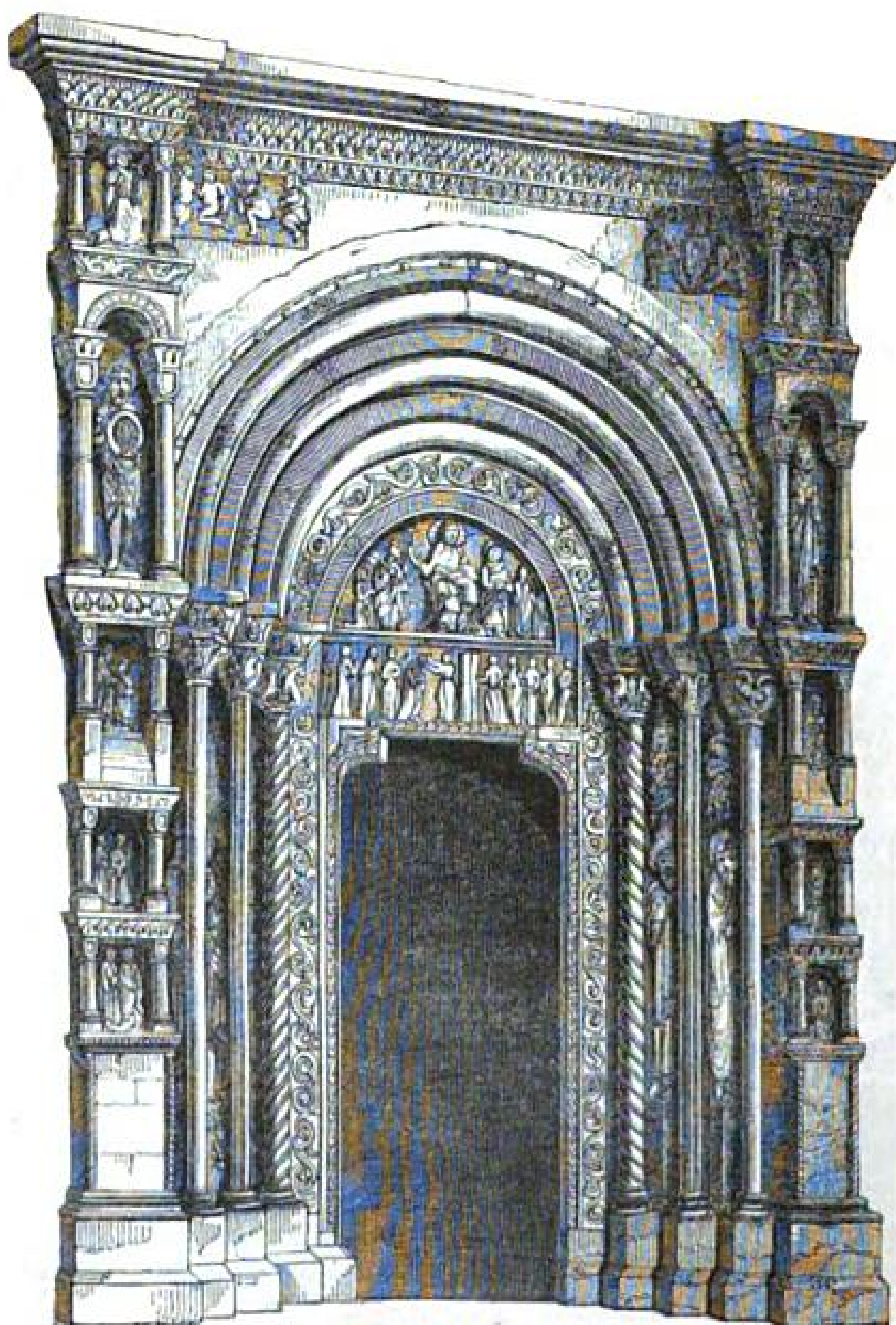


429. Cloister at Zurich. From Chapuy, Moyen Age Monumental.

unusual in Switzerland, though nearly unknown in the Gothic churches of Italy and Germany. The lateral chapels have apses, especially the southern one, which I believe to be either the oldest part of the cathedral, or built at least on the foundations of that of Otho the Great.

The most beautiful and interesting parts of this church are the northern doorway and the cloisters, both of nearly the same age, their date certainly extending some way at least into the 12th century. As specimens of the sculpture of their age, they are almost unrivalled, and strike even the traveller coming from Italy as superior to any of the contemporary sculpture of that country.

The cloister is nearly square, from 60 to 70 ft. each way. Every side is divided into five bays by piers supporting bold semicircular arches, and these are again subdivided into three smaller arches



430. Doorway at Basle. From Chapuy.

supported by two slender pillars. The arrangement will be understood by the woodcut (No. 429). This cloister is not superior in design to many in France and elsewhere of the same age. Its beauty consists in the details of the capitals and string-courses, which are all different, most of them with figures singularly well executed, but many merely with conventional foliage, not unlike the honeysuckle of the Greeks, and not unworthy of the comparison as far as the mere design is concerned, though the execution is rude. The same is true of the sculptures of the portal; though they display even less classical feeling, they show an exuberance of fancy and a boldness of handling which we miss entirely in the succeeding ages, when the art yielded to make way for mere architectural mouldings, as if the two could not exist together. The example of Greece forbids us to believe that such is necessarily the case; but in the middle ages it certainly is found that as the one advanced nearer to perfection, the other declined in almost an equal degree.

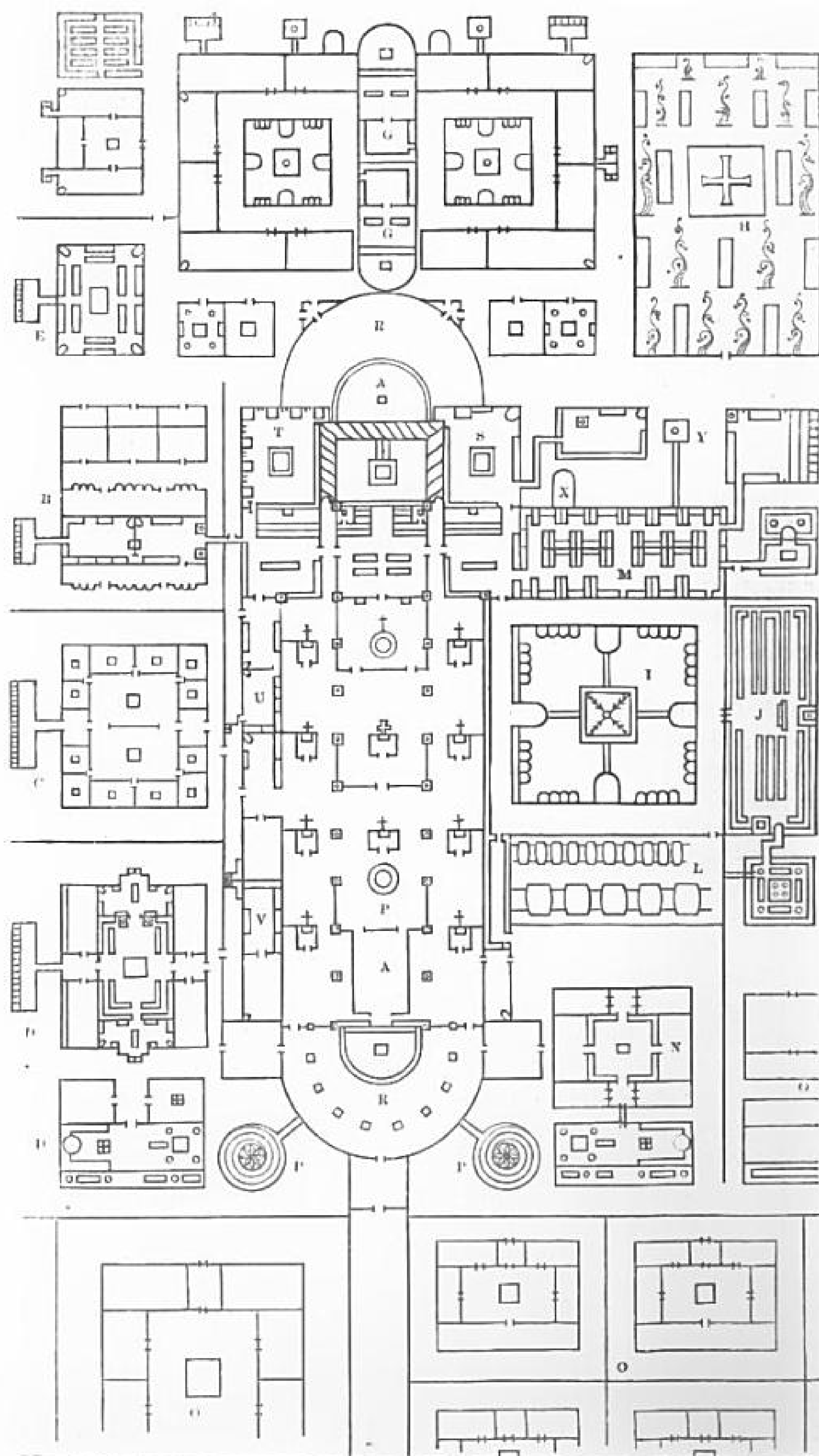
One of the doorways of the Cathedral of Basle (woodcut No. 430) is in the same style, and perhaps even more elegant than that of Zurich. Both in the elegance of its form and in the appropriateness of its details it is quite equal to anything to be found in Italy of the 11th or 12th centuries. Its one defect, as compared with Northern examples, is the want of richness in the archivolts that surmount the doorway. But, on the other hand, nothing can exceed the elegance of the shafts on either side, the niches of the buttresses, or of the cornice which surrounds the whole composition.

In respect to these details, Switzerland and the south of France surpass even Italy, and are infinitely superior to the contemporary examples of Northern Europe, as we shall have an opportunity of judging hereafter.

St. Gall.

The annexed plan, though not a representation of any actual Swiss building, is so interesting a document, and so connected with the history of the art in Germany at least, that it is impossible to pass it over here, as it is actually the only document of its class we possess, and throws great light on the architecture of its age. The name of its author is not known, but it seems quite certain that it belongs to the early part of the 9th century, and was sent to the Abbot Gospertus while he was engaged in rebuilding the monastery of St. Gall, by some one well skilled in architecture, though hardly by Eigenhard, the friend of Charlemagne, as was supposed by Mabillon. It must not therefore be considered as a plan of the buildings carried out, but as a project for a perfect monastery, sent to aid the Abbot in the design and arrangement of the abbey he governed.

From that time it seems to have remained among the archives of the monastery till it was discovered by Mabillon, and published by him in the 2nd vol. of the Annals of the Benedictine Order. The plan itself is on two sheets of parchment, and so large (3½ by 4½ ft.)



431. Reduction of an original plan of a Monastery found at St. Gall.

that only a small portion of it can be produced here, and that on a reduced scale.

The whole group of buildings was apparently meant to occupy a space of about 450 ft. by 300. On the north side of the church (A A) was situated the abbot's lodging (B), with a covered way into the church, and an arcade on each face; his kitchen and offices were detached, and situated to the eastward. To the westward of this was the public school (C), and still farther in that direction the hospitium or guest-house (D), with accommodation for the horses and servants of strangers attached to it.

Beyond the abbot's house to the eastward was the dispensary (E), and beyond that again the residence of the doctor (F), with his garden for medical herbs and simples at the extreme corner of the monastery.

To the eastward of the great church was situated another small double apse church (G G), divided into two by a wall across the centre.

On either side of this church was a cloister, surrounded by apartments: that on the north was the infirmary, next to the doctor's residence, and to it the western portion of the chapel was attached. The other was the school and residence of the novices. Beyond these was the orchard (H), which was also the cemetery of the monks; and still farther to the southward were situated the kitchen-garden, the poultry-yard, the granaries, mills, bakehouses, and other offices. These last are not shown in the woodcut for want of space.

On the south side of the church was situated the great cloister (I). On the south side of this was the refectory (J), with a detached kitchen (K), which also opened into the great wine-cellar (L); opposite to this was the dormitory (M), with various dependent buildings.

To the westward of this was another hospitium (N), apparently for an inferior class of guests; and to the southward and westward (O O) were placed the stables for horses, cattle, sheep, and all the animals required for so large an establishment, and all arranged with as much skill and care as could be found in the best modern farms.

The principal point of interest is the church, which was designed to be 200 ft. long from east to west, and about 40 ft. in width, divided into three aisles by two rows of columns. It has two apses; the principal one towards the east has a vaulted crypt, in which is a confessio, meant to contain the relics of the patron saint, St. Gall. In front of this is a choir, arranged very much on the model of that of S. Clemente at Rome, before described.[1] The western apse, on the same level as the floor of the church, was to be dedicated to St. Paul, the eastern one to St. Peter. Between the two choirs is the font (P) and the altar of St. John the Baptist, and on each side a range of altars dedicated to various saints. Behind both apses are open spaces or paradises (R R) (parvis), that to the west surrounded by an open semi-circular porch, by which the public were to gain access to the church; and on either side of this, but detached, are two circular towers, each with an altar on its summit, one dedicated to the archangel Michael, the

[1] See p. 484.

other to Gabriel: these were to be reached by circular stairs or inclined planes. No mention is made of bells, but the text would seem to intimate rather that the towers were designed for watch-towers or observatories. The similarity of their position and form to that of the Irish round towers is most remarkable; but whether this was in compliment to the Irish saint to whom the monastery owed its origin, or whether we must look to Ravenna for the type, are questions not now easily determined. We know far too little yet of the archæology of the age to speak with certainty on any such questions. There can, however, I think, be little doubt but that the meaning and origin of these and of the Irish towers were the same; but whether it was a form exclusively belonging to a Celtic or Irish race, or common to all churches of that age, is what we cannot now decide from the imperfect data at our command.

On either side of the east end of the church is an apartment, where the transept is usually found: that on the south is the vestry (S); on the north is the library (T), and attached to the church on the same side is the schoolmaster's house (U), and beyond that the porter's (V). All the living apartments have stoves in the angles. But the dormitory has a most scientific arrangement for heating: the furnace is at (X), and the smoke is conveyed away by a detached shaft at (Y); between these two there must have been an arrangement of flues under the floor for heating the sleeping apartment of the monks.

Were it not that the evidence is so incontrovertible, we should feel little inclined to fancy that the monasteries of this dark age showed such refinement and such completeness as is here evidenced; for at no period of their history can anything more perfect be found. In the church especially, the two apses, the number of altars, the crypt and its accompaniments, the sacristy, the library, &c., many of which things have generally been considered as the invention of subsequent ages, are marked out distinctly and clearly, as well understood and usual arrangements of ecclesiastical edifices. This fact refutes at once all the arguments as to the dates of churches which have been founded on the supposed era of the introduction of these accessories.

CHAPTER III.

GERMANY.

CONTENTS.

DURING the whole of the period that elapsed between the retirement of the Romans and the reign of Charlemagne, Germany seems to have been in such a state of anarchy and confusion, that no great buildings were or could be undertaken. At all events, no trace of any edifice of this age remains, nor even a tolerably distinct tradition of any one being founded by the unsettled barbarian tribes who occupied that fine country when deprived of the protection of the empire of Rome.

This long period of darkness was terminated by the reign of Charlemagne. He restored the authority of the laws and encouraged the arts of peace, and founded many noble edifices, which either in whole or in part remain to the present day. This gleam of tranquil brightness, however, seems to have been more owing to the individual greatness of the man than to the ripeness of the people for more civilised institutions; for again, on his death, they relapsed into confusion and barbarity. From this state the land partially emerged under the first three Othos, in whose reigns church building seems to have been renewed with some energy. From the beginning of the 11th to the end of the 12th century the progress was great and uninterrupted, and the style then in vogue was brought to its greatest degree of perfection. But after the first twenty years of the 13th century the Germans began to tire of their own national style, and to copy the then fashionable French style. Before the death of Frederick II., in whose reign the change commenced, the great German Round Gothic style, before it had reached the full maturity of perfection, had given way to the French Pointed Gothic, and perished, never to revive.

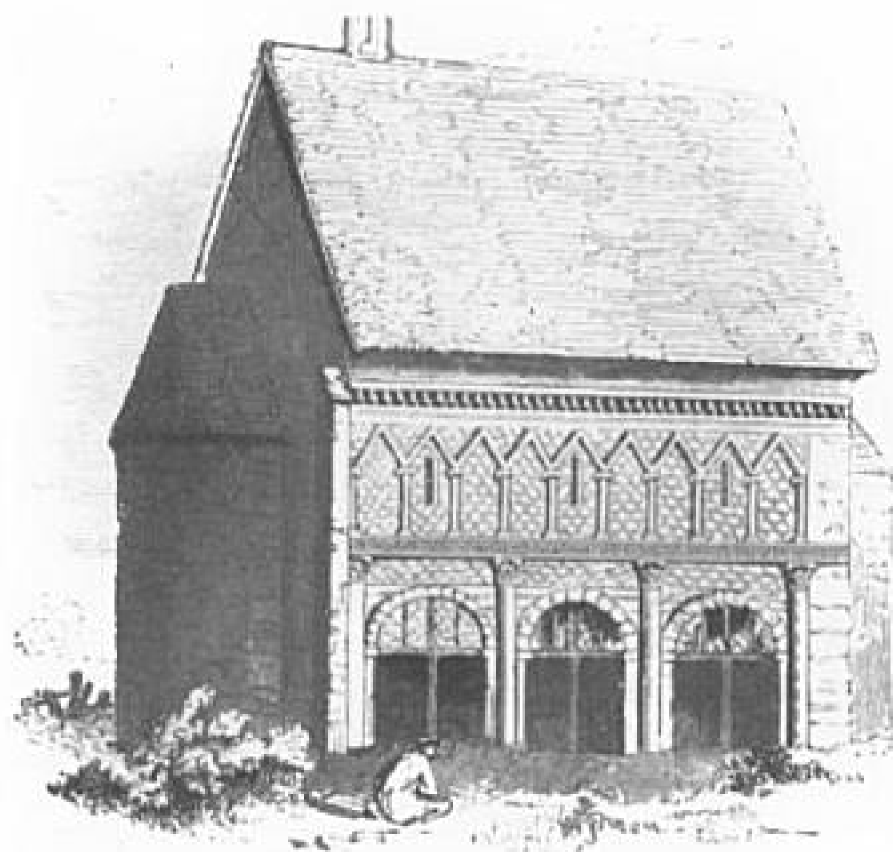
There is none perhaps of the mediaeval styles so complete within itself, and so easily traced, as the round-arched German-Gothic.

We have already, in a preceding chapter, attempted to trace the history of one—perhaps the elder branch of it—as it existed in the valley of the Po. It may there have arisen with the Goths of the 6th century, and was certainly practised by the Lombards before their overthrow by Charlemagne, though, as before pointed out, we have hardly any authentic specimen, except the Swiss examples, now remaining to show what it really was before the beginning of the 11th century. It is then, however, so complete and so essentially different from the Romanesque, that we can almost certainly discern

the steps by which this point was reached from the internal evidence afforded by the buildings themselves.

During the 11th and 12th centuries the valley of the Po was virtually a part of the great German empire, and its style of architecture was consequently similar to, if not nearly identical with, that found in the valley of the Rhine. In the 13th century, as German influence died out, this style in Italy gave way, partly to an importation of the French pointed style, but more to a mixed style, partly French, partly German, and in a still greater degree made up of a native indigenous element which it is difficult to describe or define.

On the banks of the Rhine the history of the art is very similar to this, except that it begins absolutely with Charlemagne, one only building having the least title to the character of Romanesque—the well-known porch of the convent at Lorsch. This is generally stated to have been built in the year 774; but it is so classical in all its details, so like what we can fancy the Roman style to have become in Germany a century or two earlier, that it seems rather the remains of some earlier buildings that stood on this spot before the monarchy was founded by Pepin in the year 764. At all events, if this is not so, it will be necessary to bring down the date of the celebrated cathedral at Aix-la-Chapelle, as at present existing, to the time when it is known to have been extensively repaired at least, by Otho III.; for it shows no trace of that classicality which is so distinguishing a feature of the other, and therefore must have been later.



432. Porch of Convent at Lorsch.

Leaving this for the present, we have certainly one great circular church built by Charlemagne at Aix-la-Chapelle, and another at Nimeguen. There is a third very similar at Ottmarsheim in Alsace, though a century at least more modern. Otho the Great built himself a circular tomb-house at Magdeburg, within whose walls he and the English Edith, his wife, were buried. Another circular church of the same age was built at Fulda, and one still exists in ruins on the Petersberg near Halle. Indeed, both from analogy and from historical evidence, we seem justified in assuming that almost all the churches of this date were circular.

The oldest buildings of the basilican form are said to have been the

cathedrals of Cologne and Fulda, but the evidence, at least for the former, is very indistinct and imperfect. At the end, however, of the 10th and beginning of the 11th centuries several large and important churches of this class were erected in various parts of Germany, such as that at Gernrode (960), Hildesheim (1001), Limburg on the Haardt (1035). The reconstruction of the cathedral at Trèves was undertaken, and that of several important churches in Cologne, and from this period we advance steadily through a complete series of edifices, to which the cathedrals of Mayence, Worms, and Spires belong, through the whole of the 12th and the first quarter of the 13th centuries, without any trace of a change in style. The old circular cathedral at Magdeburg was burnt down in 1208. Shortly afterwards its rebuilding was commenced in a clumsy transitional pointed style. The church of the Holy Virgin at Trèves is said to have been commenced as early as 1227, though it seems to have been but slightly advanced in 1243. The first complete specimen of the pointed style whose date is well ascertained is the church at Marburg, commenced in the year 1235, and finished in 1283.

These buildings will all be more particularly mentioned in the sequel. In the meanwhile, however, it is essential to define the age and locality of this style, which at the period of its greatest development, in the 12th century, extended through eight degrees of latitude, from the sources of the Po to the mouths of the Rhine, with singularly little variation in local difference of form. It is true, indeed, that there is a greater degree of perfection in the sculpture and of elegance in the details of the Italian examples; but there is a grandeur in the conception and the scale of the Rhenish edifices that throws into the shade the smaller buildings in the valley of the Po.

In Germany the duration of the style somewhat exceeds two centuries and a half, from the time of the great Otho to that of Frederic II. During the whole of that time the Germans laboured assiduously in perfecting their national architecture, and with very considerable success as we shall presently see. In the 13th century the same thing happened as afterwards occurred in the 17th, when Germany abandoned her own literature and almost her own language to adopt a slavish imitation of the French school of the day, in which she persevered till the troubles of the last hundred years roused her from her lethargy to vindicate her slumbering nationality. So in the 13th century she abandoned her own national round-arched Gothic to adopt the French pointed style, and persevered, without either understanding it or being able to naturalise it, till the Reformation awakened her to a sense of her own importance and her proper mission in the intellectual world.

By a strange perversion of historical evidence, the Germans have attempted of late years to appropriate to themselves the credit of the invention of the pointed style, calling it in consequence German architecture. The fact is that the pointed style was not only invented but perfected in France long before the Germans thought of introducing it; and when they adopted it, they did so without understanding it, and fell far short of the perfection to which it was carried by the

French in all their edifices in the age of its greatest development in that country.

On the other hand, the Germans may fairly lay claim to the invention of the particular style which prevailed throughout Lombardy and Germany of which we are now speaking. This style, it is true, never was fully developed, and never reached that perfection of finish and completeness which the pointed style attained. Notwithstanding this, I feel convinced that it contained nobler elements than the other, and was capable of far more successful cultivation. Had its simpler form and grander dimensions been elaborated with the same care and taste, Europe would have possessed a higher style of mediæval architecture than she ever saw. The task, however, was abandoned before it was half completed, and it is only too probable now that it can never be resumed.

A complete history of this style, worthy of its importance, is still a desideratum which it is to be hoped the zeal and industry of German architects will ere long supply, and vindicate their national art from the neglect it now lies under, by illustrating as it deserves one of the most interesting chapters in the history of architecture.[1] Already German writers seem to be aware that the age of the Hohenstaufens was not only the most exclusively national, but also the most brilliant period of their history. Its annals have engaged the pens of their best historians. Its poetry has been rescued from obscurity and commented upon with characteristic fulness. Every phase of their civilisation has been illustrated fully, except one—that one being their architecture, the noblest and the most living record of what they did or aspired to, that could be left for their posterity to study. So distinctly is it their own, that, were it necessary to find for it a separate name, the style of the Hohenstaufens would be that which most correctly describes it.

The complete description of this style must be left to works in which the subject can be treated more fully than is possible here. All we can hope to do is to define it so as to separate it clearly from other styles, and to point out its more important and characteristic features. The first will not be difficult, as it has singularly little affinity with any of the contemporary styles except the Burgundian; and perhaps even Burgundy ought to be considered a province of Germany rather than of France in the age to which we refer. At all events, there is sufficient affinity between the people to account for this similarity. The Norman and other styles of France differ so essentially as to be easily distinguished one from the other.

The leading characteristics of the German style are the double apsidal arrangement of plan, the multiplication of small circular or octangular towers, combined with polygonal domes, at the intersections

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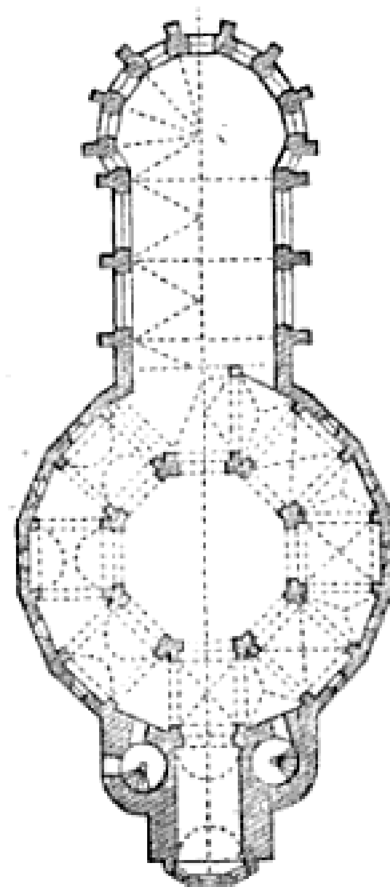
[1] The work of F. Osten on the architecture of Lombardy, and that of Geier and Görz on the style in the Rhine country, combined with the works of Boisserée, have already furnished considerable materials for such a history. Both these first-named works were left incomplete, the former from the death of the author, the latter owing to the late troubles of the country.

of the transepts with the nave, and the extended use of galleries under the eaves of the roofs both of the apses and of the straight sides. The most ornamental parts are the doorways and the capitals of the columns. The latter surpass in beauty and in richness anything of their kind executed during the middle ages, and, though sometimes rude in execution, equal in design any capitals ever invented. They only wanted the experience and refinement of another century of labour to enable them successfully to compete with any part of the pointed architecture which succeeded them.

The intruding style excelled the old German art only by being complete and perfect in itself.

AIX-LA-CHAPELLE.

The Dom at Aix-la-Chapelle must rank among unedited monuments, though it is, without a single exception, the most important building of its class in Europe. It is the oldest authentic example we have of its style. It was built by the greatest man of his age, and more emperors have been crowned and more important events happened beneath its venerable vaults than have been witnessed within the walls of any existing church in Christendom.[1] Notwithstanding the doubts that have been thrown lately on the fact, I feel convinced that we now possess the church of Charlemagne in all essential respects as he left it. The great difficulty in fixing its age appears to arise from the fact of most of its architectural ornaments having been painted or executed in mosaic, instead of being carved as in the porch at Lorsch, and time and whitewash have so obliterated these, that the remaining carcase—it is little else—seems ruder and clumsier than we should expect.



433. Plan of the Church at Aix-la-Chapelle. From J. von Nolten. Scale 100 ft. to 1 in.

As will be seen from the annexed plan, the church is externally a polygon of 16 sides, and about 105 ft. in diameter; internally 8 compound piers support a dome 47 ft. 6 in. in diameter. The height is almost exactly equal to the external diameter of the building. Internally this height is divided into 4 stories. The two lower, running over the side aisles, are covered with bold intersecting vaults. The third gallery, like the triforium of more modern churches, is open to the roof, and above that are 8 windows giving light to the central dome.

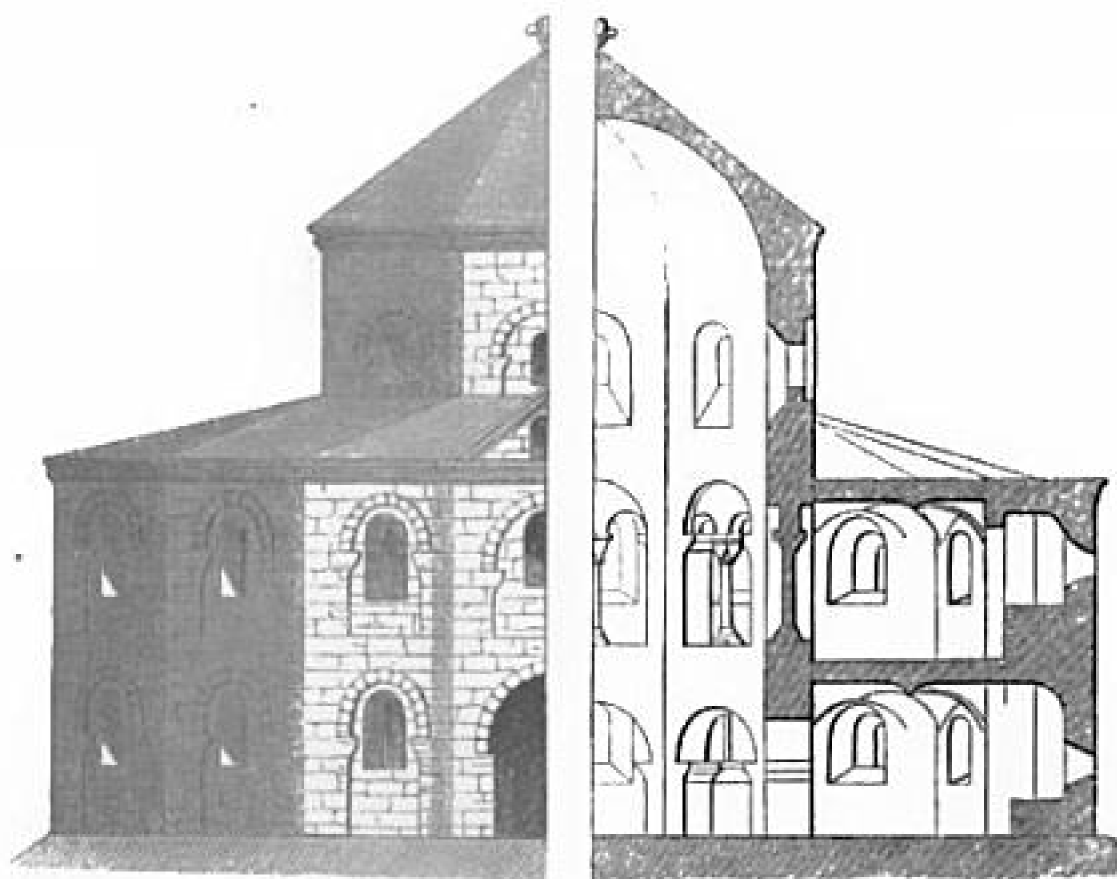
To the west was a bold tower-like building, flanked, as is usual in this style, by two circular towers containing staircases. To the east was a semicircular niche containing the altar,

[1] I have myself examined this edifice, but in far too hurried a manner to enable me to supply the deficiency. I speak, therefore, on the subject with diffidence.

which was removed in 1353, when the present choir was built to replace it.

As before mentioned, there is a tradition that Otho III. rebuilt this minster. It is more probable that he built for himself a tomb-house behind the altar of that of his illustrious predecessor, where his bones were laid, and where his tomb till lately stood at the spot marked X in the centre of the new choir. What the architect did in the 14th century was to throw the two buildings into one, retaining the outline of Otho's tomb-house, which may still be detected in the unusual form of the plan of the new building.

The tradition is that this building is a copy of the church of St. Vitale at Ravenna, and on comparing its plan with that represented in woodcut No. 392, it must be admitted that there is a considerable resemblance. But there is a bold originality in the German edifice, and a purpose in its design, that would lead us rather to consider it as one of a long series of similar buildings which there is every reason to believe existed in Germany in that age. At the same time the design of this one was no doubt considerably influenced by the knowledge of the Italian examples of its class which its builders had acquired at Rome and Ravenna. Its being designed by its founder for his tomb is quite sufficient to account for its circular plan—that, as has been frequently remarked, being the form always adopted for this purpose. It may be considered to have been also a baptistery—the coronation of kings in those days being regarded as a re-baptism on the entrance of the king upon a new sphere of life. It was in fact a ceremonial church, as distinct in its uses as in its form from the basilica, which in Italy usually accompanied the circular church; but whether it did so or not in this instance can only be ascertained when the spot and its annals are far more carefully examined than has hitherto been the case.

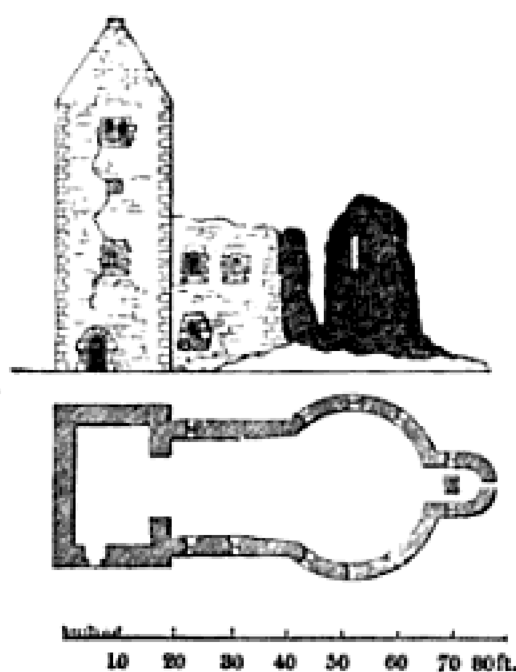


[illegible]. Church at Nimeguen. From Schayes. No scale.

The church at Nimeguen is even less known than this one; we have no tradition as to who its builder was, nor whose tomb it was erected to contain. From the half-section, half-elevation (woodcut No. 434[1]), it will be seen that it is extremely similar to the one just described, both in plan and elevation, but evidently of a somewhat more modern date, having scarcely a trace of the Romanesque style. It wants too the façade which usually adorned churches of that age; but it seems so unaltered from its original arrangement that it is well worthy of more attention than it has hitherto received.

Of the church of Otho the Great at Magdeburg we know nothing but from a model in stone, about 12 ft. in diameter, still existing in the present cathedral, and containing sitting statues of Otho and Edith, who were buried in the original edifice. The model unfortunately was made in the 13th century, when the original was burnt down; and as the artists in that day were singularly bad copyists, we cannot depend much on the resemblance. It appears, however, to have been a polygon of 16 sides externally, like the two just mentioned; and if I am correct in supposing, as was generally the case, that the choir of the present cathedral is built on the foundation of the older church, its dimensions must have been nearly similar, or only slightly inferior to those of either of the two last mentioned churches. The details of the model belong to the age in which it was made, not that of the church it was meant to represent.

The church at Ottmarsheim is still unedited; that at the Petersberg, shown in the woodcut No. 435, is a ruin, but interesting as showing either an older form of circular church than those described above, or at all events one more essentially German, and less influenced by classical and Romanesque forms than they were. It never was or could have been vaulted, and it possesses that singular flat tower-like frontispiece which is so characteristic of the German style, but found in no other country, and whose origin is still unknown.



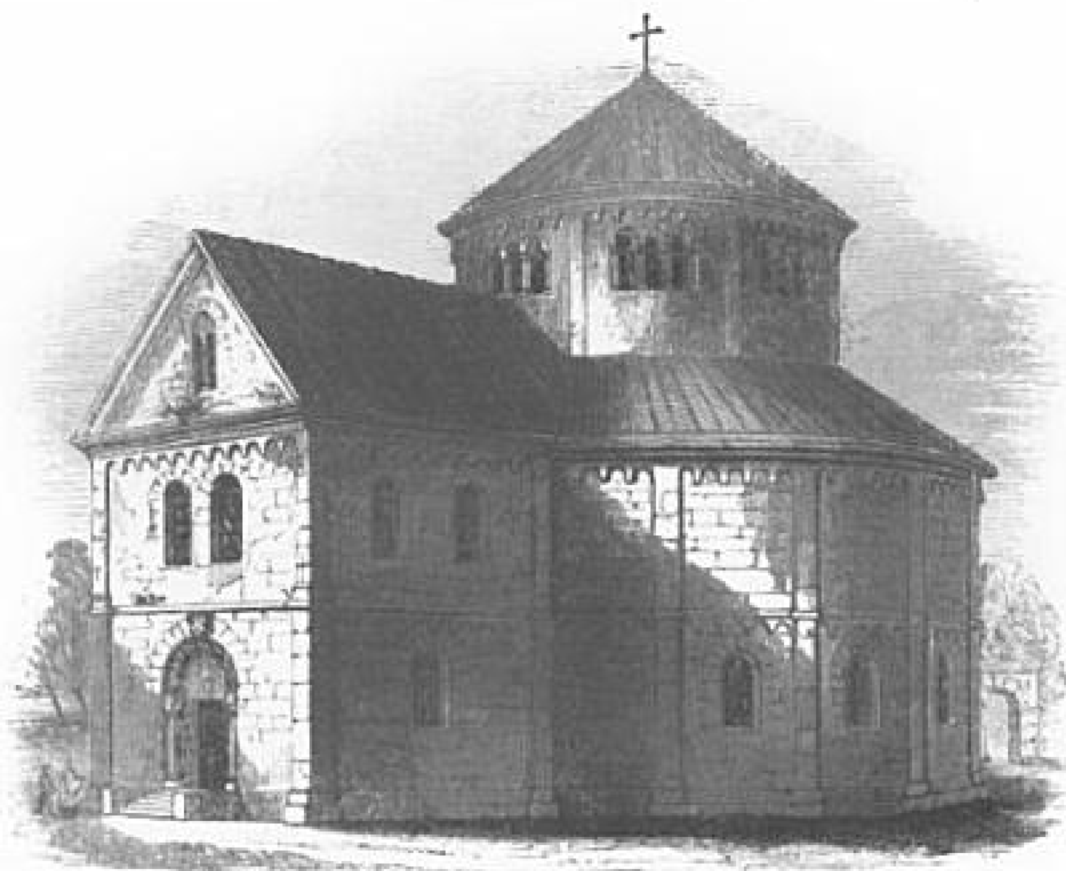
435. Church at Petersberg. From Puttrich.

Though it is anticipating to some extent the order of the dates of the buildings of Germany, it may be as well to complete here the subject of the circular churches of that country; for after the beginning of the 11th century they ceased to be used except in rare and isolated instances. At that date all the barbarian tribes had been converted, and the baptism of infants was a far less important ceremony than the admission of adults to the bosom of the Church, and one not requiring a separate edifice for its celebration. At the same time the immense increase of the ecclesiastical orders, and the liturgical forms

[1] Taken from Schayes' Histoire de l'Architecture en Belgique, vol. ii. p. 18, taken by him, I believe, from Lassaulx.

then established, rendered the circular form of church inconvenient and inapplicable to the wants of the age. The basilica, on the other hand, was equally sacred with the baptistery, and soon came to be considered equally applicable to the entombment of emperors and other similar purposes.

The circular church called the Baptistery at Bonn, which was



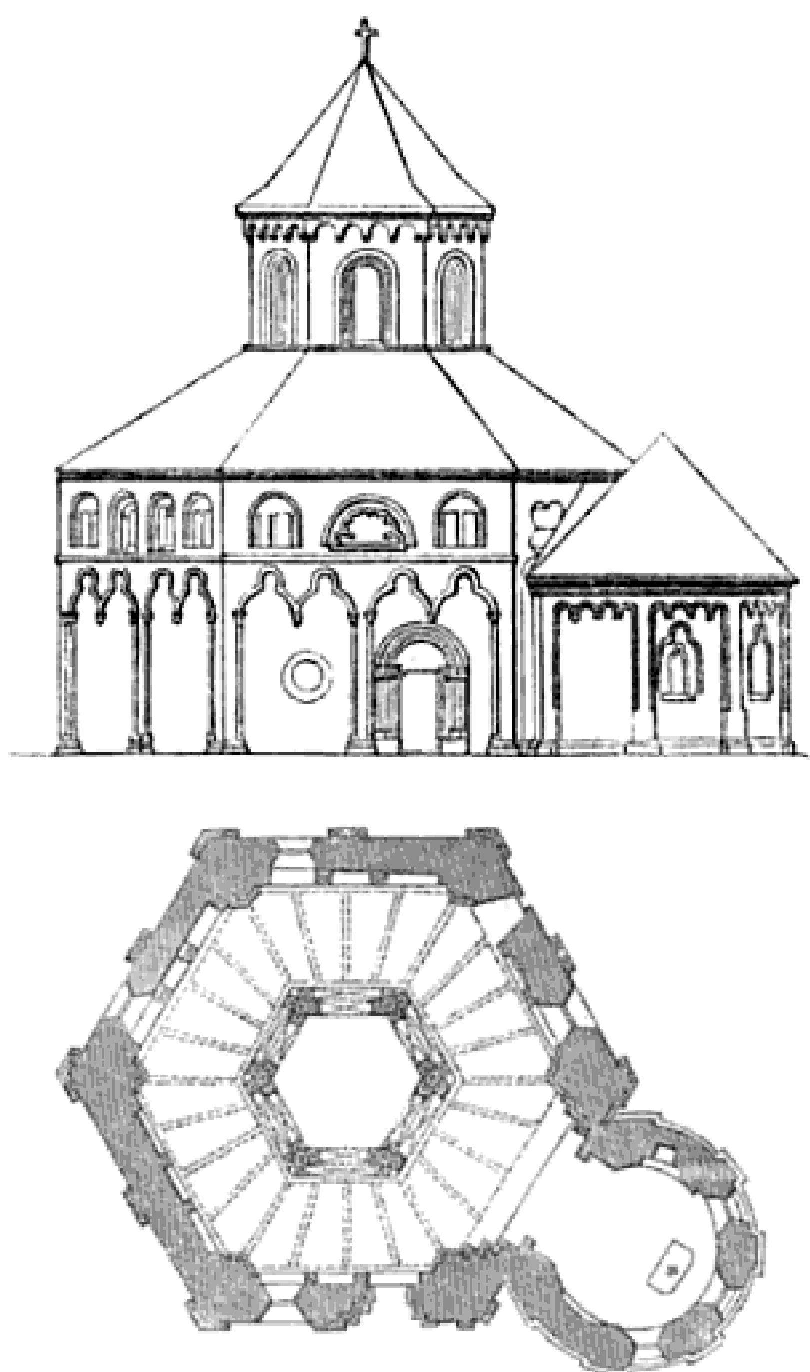
436. Baptistery at Bonn. From Boisserée's Nieder Rhein.

removed only a few years ago, was one of the most interesting specimens of this class of monuments in the age to which it belongs. No record of its erection has been preserved, but its style is evidently of the 11th century. Excepting that the straight or rectangular part is here used as a porch, instead of being inserted between the apse and the round church, to form a choir, the building is almost identical with St. Tomaso in Limine (woodcuts Nos. 423 and 424) and other Lombard churches of the same age. Both externally and internally it is certainly a pleasing and elegant form of church, though little adapted either for the accommodation of a large congregation or the ceremonies of the mediæval church.

There is another small edifice called a Baptistery at Ratisbon, built in the last years of the 12th century, which shows this form passing rapidly away, and changing into the rectangular. It is in reality a square surrounded by 3 apses, and surmounted by an octagonal dome. As we shall presently see, the same arrangement forms the principal as well as the most pleasing characteristic of the Cologne churches, where on a larger scale it shows capabilities which we cannot but regret were never carried to their legitimate termination. The present is a singularly pleasing specimen of the class, though very small, and wanting the nave, the addition of which gives such value to the triapsal form at Cologne, and shows how gracefully its lines inevitably group together. On the spot it is still called the Baptistery; but the correct

tradition, I believe, is that it was built for the tomb-house of the bishop to whom it owes its erection.

One more specimen will serve to illustrate nearly all the known forms of this class. It is a little chapel at Cobern on the Moselle (woodcut No. 437), hexagonal in plan, with an apse, placed most unsymmetrically with reference to the entrance—so at least we should consider it: but the Germans seem always to have been of opinion that a side entrance was preferable to one opposite the principal point of interest. The details of this chapel are remarkably elegant, and its external form is a very favourable specimen of the German style just before it was superseded in the beginning of the 13th century by the French pointed style.



437. Chapel at Cobern on the Moselle. From Wiebeking. No scale.

There are besides these a circular chapel of uncertain date at Altenfurt near Nuremberg, and the interesting but little known church of St. Michael at Fulda, dedicated in the year 1092, erected to replace an older building whose crypt still remains beneath. According to Kugler it was a sepulchral church, erected in imitation of that at Jerusalem. There are also many others at Prague and in various parts of Germany, but none remarkable either for their historical or for their artistic importance. This form went out of use before the style we are describing reached its acme; and it had not therefore a fair chance of receiving that elaboration which was necessary for the development of its capabilities.

CHAPTER IV.

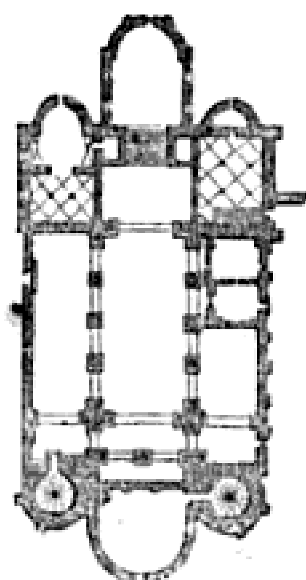
BASILICAS.

CONTENTS.

Church at Gernrode — Trèves — Hildesheim — Cathedrals of Worms and Spires — Churches at Cologne — Other churches and chapels.

The history of the basilican or rectangular churches of Germany neither goes so far back, nor is it even so clear, as that of the round churches. The oldest known example, so far as I am aware, is the old Dom at Ratisbon, originally apparently about 40 ft. by 20 over all. It was surrounded internally by 11 niches and vaulted, showing the peculiar German arrangement of having no entrance at the west end, but a deep gallery occupying about one-fourth of the church. The lateral entrance is unfortunately gone, so that there is very little ornamental architecture about the place by which its age could be determined; and as no record remains of its foundation, we can only conjecture that it may belong to some time slightly subsequent to the Carlovingian era.[1]

Boisserée places in this age the original cathedrals of Fulda and Cologne, both which he assumes to have been double apse basilicas, but it appears without any satisfactory data. There is no doubt that the cathedral at the latter place, burnt in 1248, was a double apse church; but if it was anything like his restoration it could not have been erected earlier than the 11th or 12th centuries, and must have replaced an older building, which, for anything we know, may have been circular, as probably as rectangular; and such appears also to have been the case at Fulda, though there is even less to go on there than at Cologne.



438. Plan of the Church at Gernrode. From Puttrich.[2]

Leaving these somewhat apocryphal examples, we must come down to the end of the 10th or beginning of the 11th century for examples of the class we are now speaking of. Of these, one of the most perfect and interesting is the church at Gernrode, in the Hartz, founded A.D. 960, when probably the eastern part (not the extended choir) was commenced, and the whole building may be taken to have been built within a century after that date. From the plan (woodcut No. 438), it will be seen how singularly like it is to the design for a

[1] At Aquileja, at the upper end of the Adriatic Gulf, Popo, the archbishop, between the years 1019–1042, erected a building almost identical with this in every respect between the old basilica and the baptistery, so as to make a double apse church out of the old Romanesque arrangement. The similarity of the two buildings must probably bring down the date of that at Ratisbon to the 10th century.

[2] Baukunst des Mittelalters in Sachsen.

church found in the monastery of St. Gall,[1] except that it appears to have been originally about 50 ft., or one-fourth less in length. The western circular towers, instead of being detached, are now joined to the building. Piers too are introduced internally, alternating with pillars; and altogether the church shows just such an advance on the St. Gall plan as we might expect a century or so to produce, but showing most satisfactorily what the original form of these churches really was.



439. View of West-end of Church at Gernrode. From Puttrich.

It possesses what is rare in this country—a bold triforium gallery, and externally that strange gallery connecting the two towers which forms so distinguishing a characteristic of German churches. A still bolder example of this gallery remains in the façade of the once famous abbey of Corvey, on the eastern frontier of Westphalia (woodcut No. 440), where we find the feature developed to its fullest extent, so that it must originally have entirely hidden the church placed behind it.



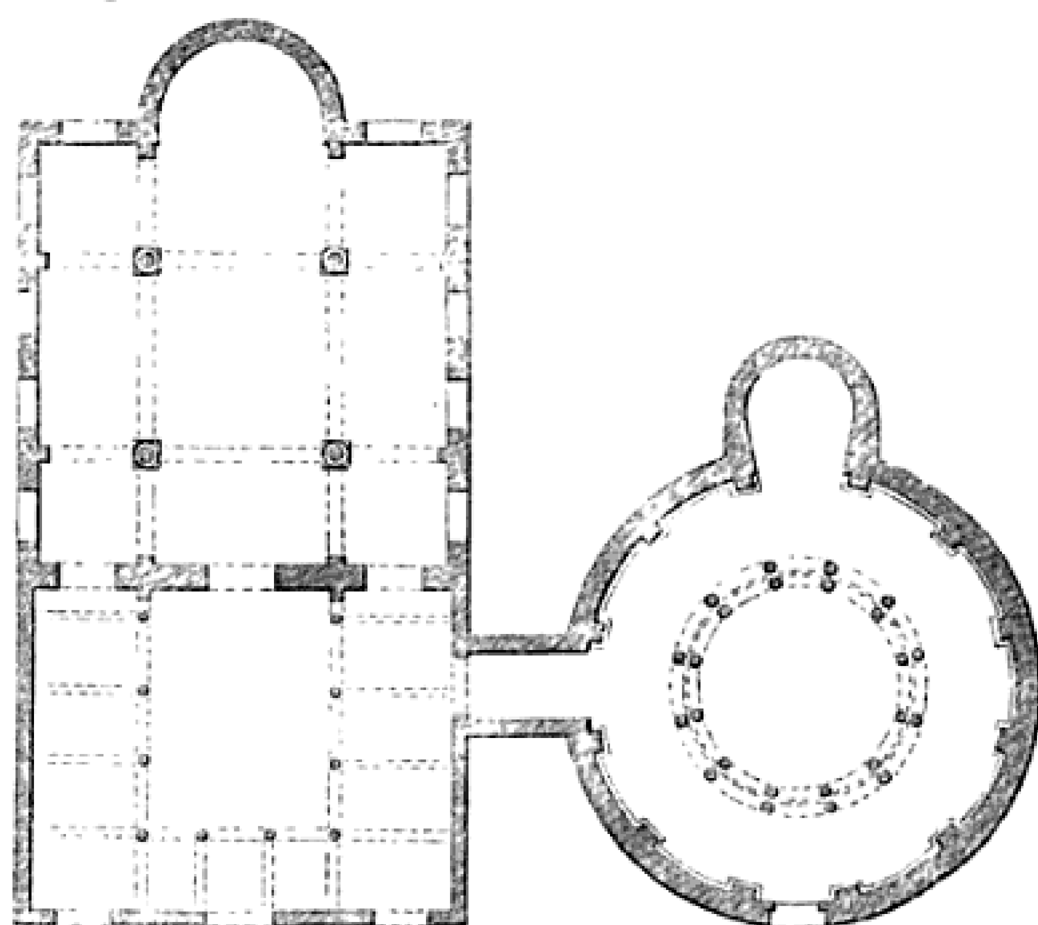
440. View of West-end of Abbey of Corvey.

To return, however, to Gernrode; as may be seen from pillars without anything like vaulting shafts being used to divide the nave from the aisles, it was originally intended to have a flat

[1] See p. 556.

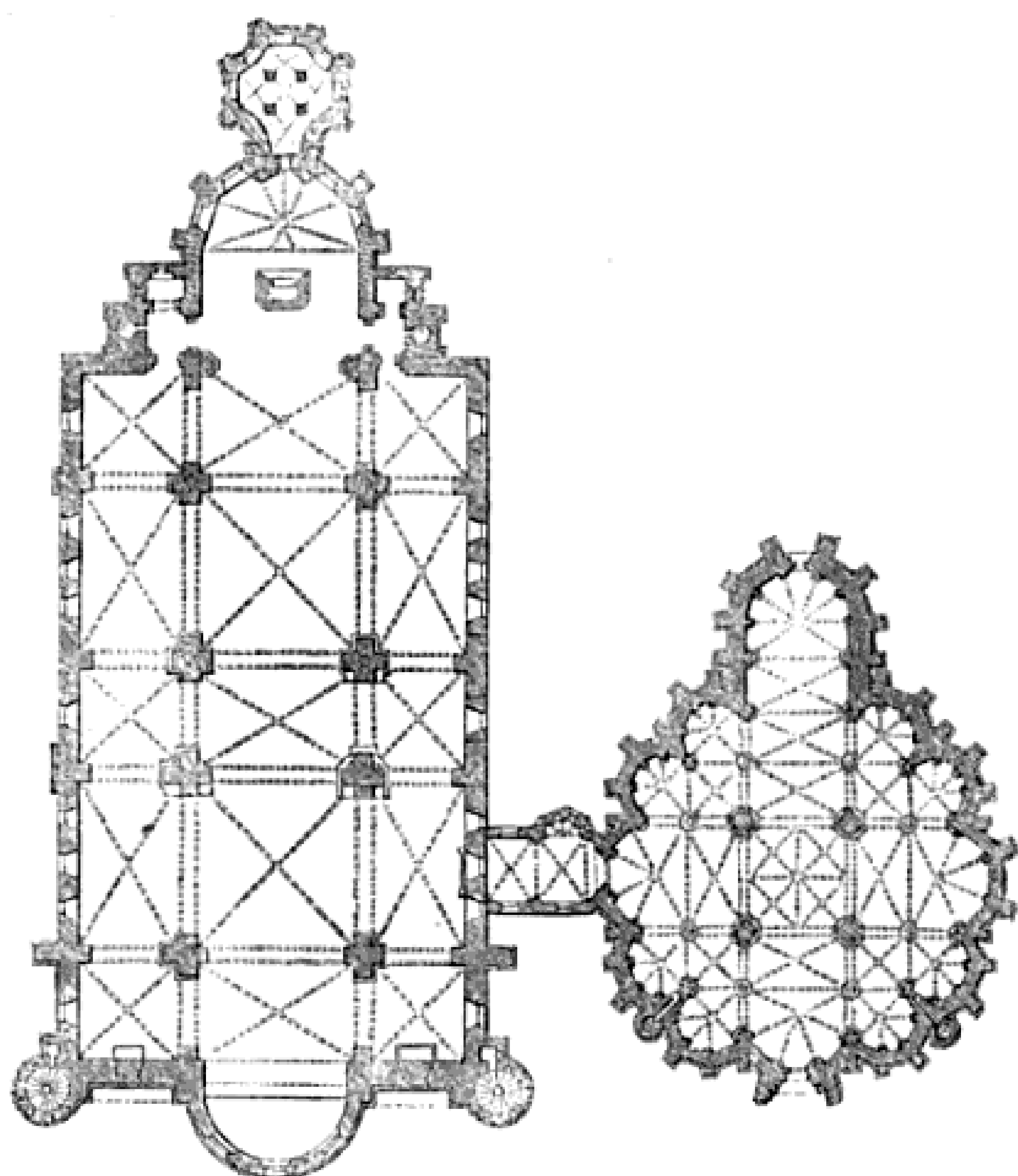
wooden ceiling, as it has at present. Indeed, this seems to have been most generally the case with the German basilicas of this age; their architects did not then feel themselves equal to vaulting the large spaces, or at least when they did so, used piers of such enormous strength as to show beyond a doubt for what purpose they were intended. It does not appear that, strictly speaking, either form was earlier than the other; but it certainly is the case that in the 11th century the flat ceiling was more generally used than the other, though by no means exclusively, nor can we assert that a wooden-roofed church was of necessity earlier than one that was vaulted. Of this we shall have occasion to speak again hereafter.

If the church at Gernrode is a satisfactory specimen of a complete German design carried out in its integrity, the cathedral at Trèves is both more interesting as well as instructive from a very different cause, inasmuch as it is one of those aggregated buildings of all ages and styles which let us into the secrets of the art, and contain a whole history within themselves; and as the dates of the successive eras can be ascertained with very tolerable accuracy, it may be as well to describe it next in the series, to explain how and where the various changes took place.

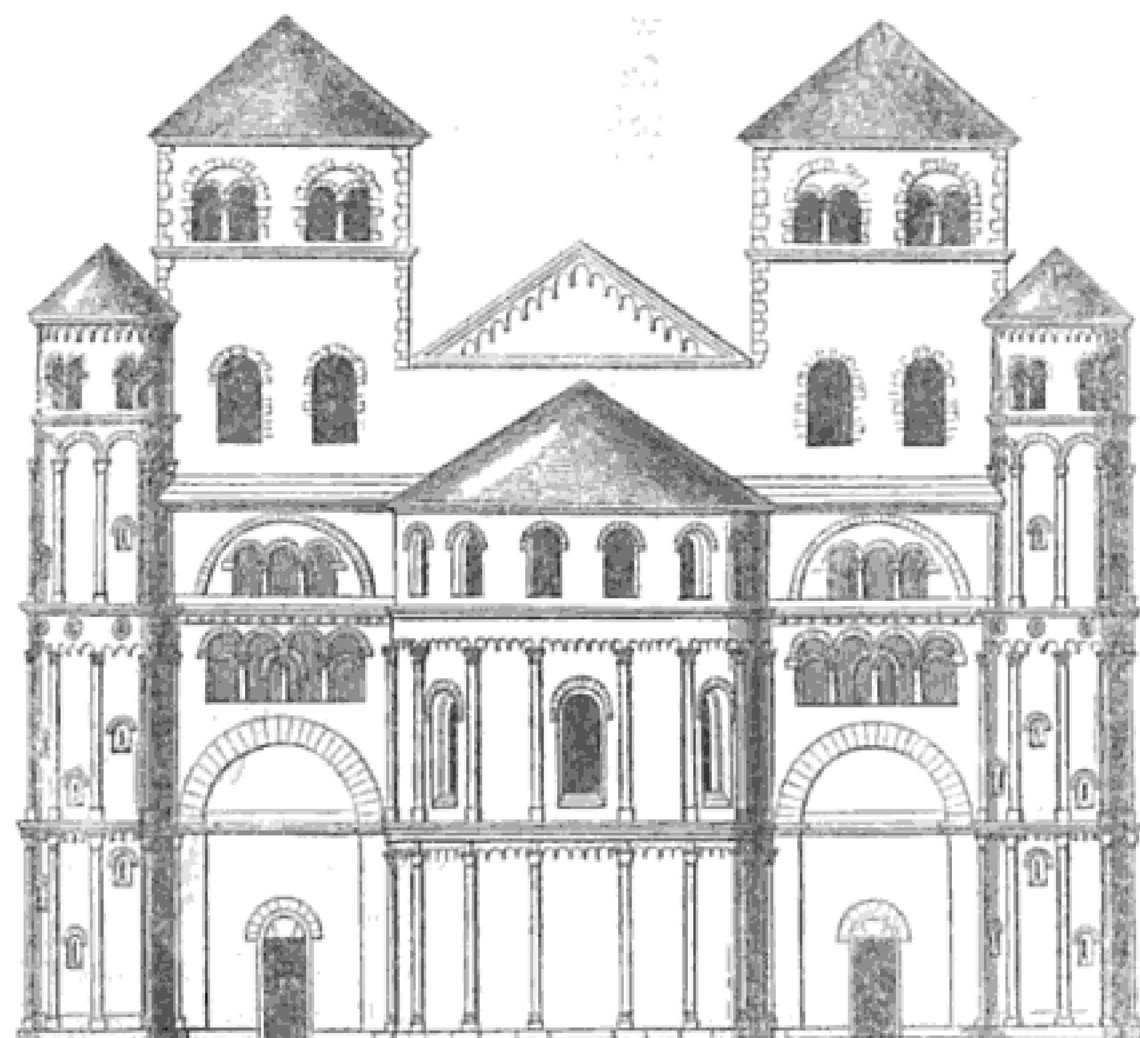


441. Plan of original Church at Trèves. Scale 100 ft. to 1 in.

As is well known, the original cathedral at Trèves was built by the pious Helena, mother of Constantine, and seems, like the contemporary church at Jerusalem, to have consisted of two distinct edifices, one rectangular, the other circular. The original circular building was pulled down in the 13th century, as before mentioned, to make way for the present church of St. Mary, erected on its site, and with, I believe, the same dimensions. Of the other, or square building, enough still remains encased in the walls of the present basilica to enable us to determine its size and plan with very tolerable accuracy.

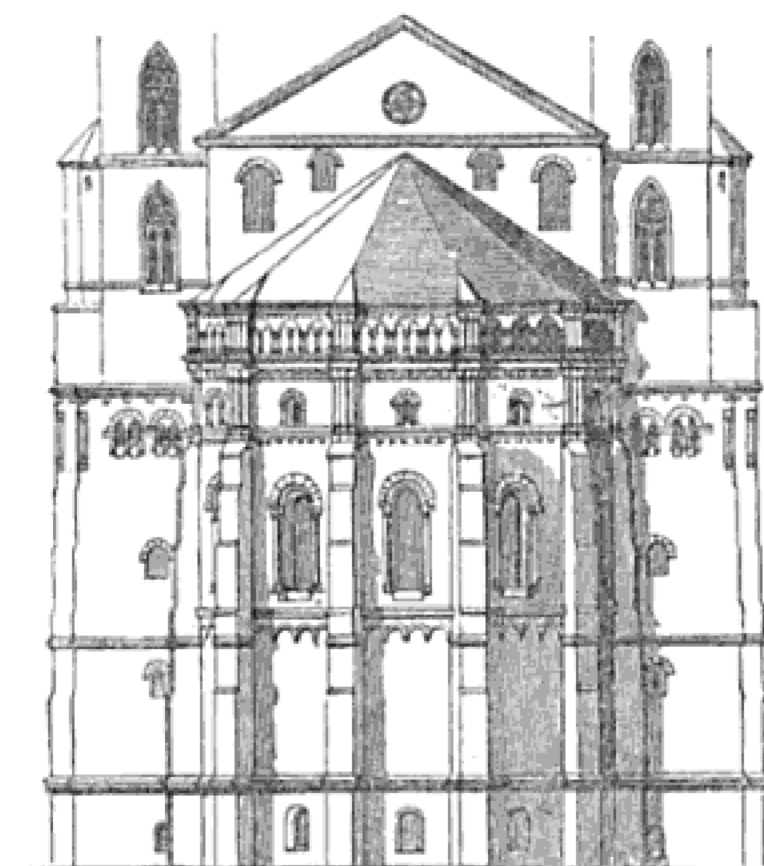


442. Plan of Mediæval Church at Trèves. From Schmidt, Baudenkmale von Trier. Scale 100 ft. to 1 in.



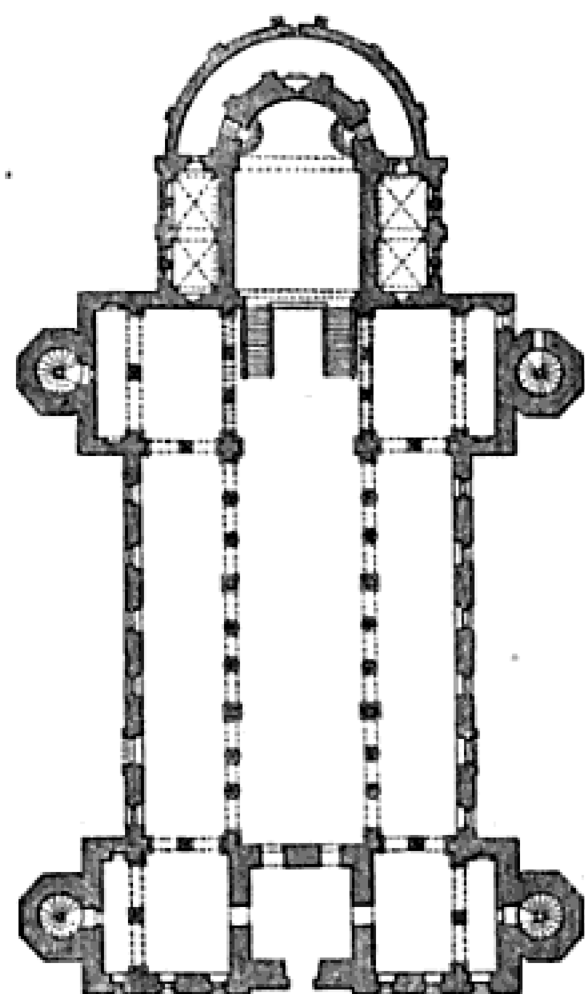
443. Western Apse of Church at Trèves. From Schmidt. Scale 50 ft. to 1 in.

The plan of it in the woodcut (No. 441) is taken from Schmidt's most valuable work on the Antiquities of Trèves. The atrium and the circular building I have restored myself, the latter from a conviction that the present edifice was built nearly on the foundations of its predecessor, as well as from examples quoted above, of the same age. The former was an indispensable adjunct to both.



444. Eastern Apse of Church at Trèves. From Schmidt. Scale 50 ft. to 1 in.

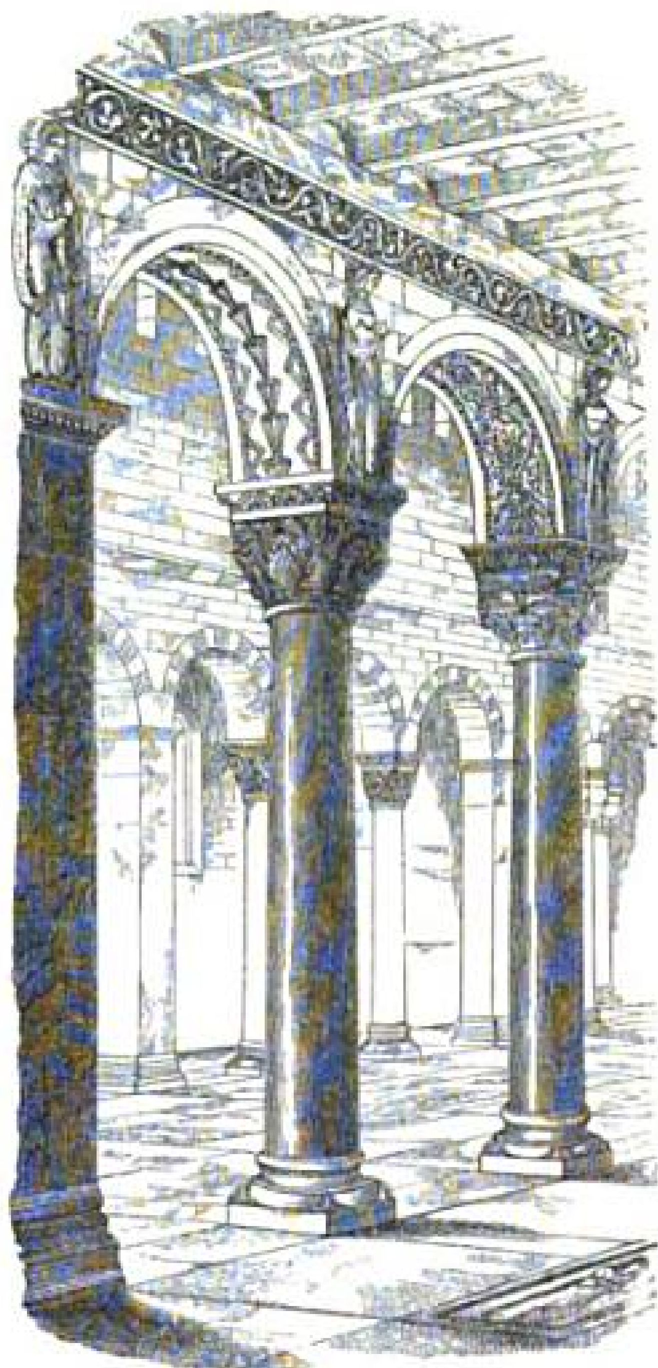
This Romanesque church seems to have remained pretty much in its original state till the beginning of the 11th century, when the Archbishop Poppo found it so ruinous from age, that it required to be almost entirely rebuilt. He first encased the pillars of the Romans in masonry, making them into piers. He then took in and roofed over the atrium, and added an apse at the western end, thus converting it into a German church of the approved model, so that from this time forward the buildings took the form shown in the woodcut No. 442. No very important works seem to have been undertaken from the beginning of the 11th till the middle of the 12th century, when Bishop Hillin is said to have undertaken the repair or rebuilding of the eastern apse: he did not proceed beyond the foundation; but the work was taken up and completed by Bishop John, who held the see from 1190 to 1212. These two apses, therefore, one at the very beginning of the style, the other as near its close, show clearly the progress which had been made in the interval.



445. Plan of Church at Hildesheim. From Müller, continued by Gladbach. Scale 100 ft. to 1 in.

The first of these apses (woodcut No. 443) is perhaps somewhat ruder than we might reasonably expect, though this may in part be accounted for by its remote provincial situation. The round towers too are subordinate to the square ones, in a manner more congenial to French than to German taste. But the principal defect is in the apsidal gallery, which is rude and tasteless as compared with

other specimens, which we are apparently justified in considering as contemporary. Before the later or eastern apse was erected, the gallery had almost run into the opposite extreme of minute littleness, and the polygonal form and projecting buttresses of the pointed style were beginning to supersede the simpler outlines of the parent style, of which these two specimens form as it were the Alpha and the Omega. Between them the examples and varieties are so numerous, that there really is an "*embarras de richesse*" in selecting those most appropriate for illustration. The church at Hildesheim, erected by Bishop Bernward in the first years of the 11th century, is among the earliest and most interesting of those remaining in sufficient purity to enable us to judge correctly of their original appearance. The plan (woodcut No. 445) is simple,—first a western transept or façade, a nave little longer than it is broad, terminated by another transept similar to the first, flanked like it by two octagonal towers; beyond this a short choir and simple apse, with a low aisle surrounding it, but not communicating directly with the church. The entrances are as usual on each side of the nave, and none at the west end. Though the proportions appear short with reference to the breadth, considerable additional effect is given by the screens that shut off the transept so as not to allow the perspective effect to be broken. Hence the continuous view of the central aisle, being six times as long as it is broad, gives the appearance of far greater length to the church than could be supposed possible from its lineal dimensions. But the great beauty here is the elegance both in proportion and detail of the pier arches, which separate the nave from the aisles; the proportion of the pillars is excellent, their capitals rich and beautiful, and every third pillar being replaced by a pier, gives a variety and apparent stability which is extremely pleasing.

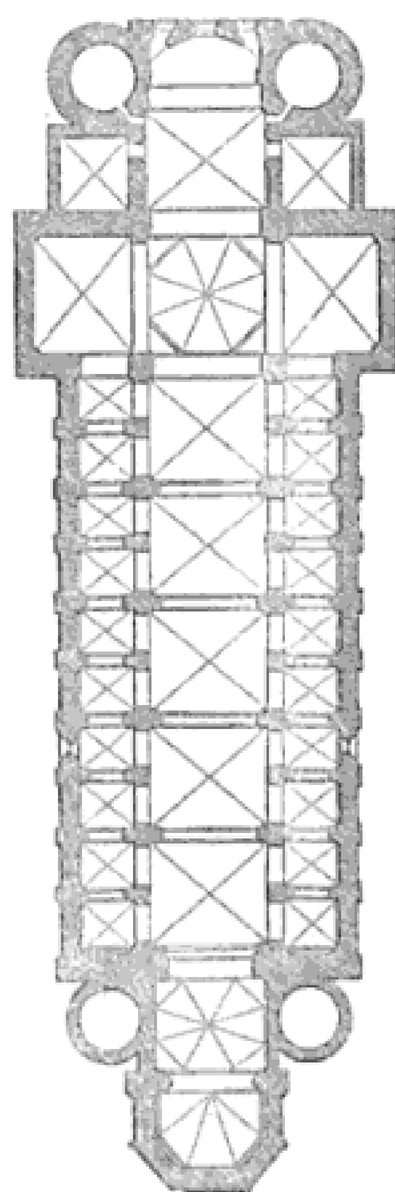


446. Internal View of the Church at Hildesheim. From Müller.

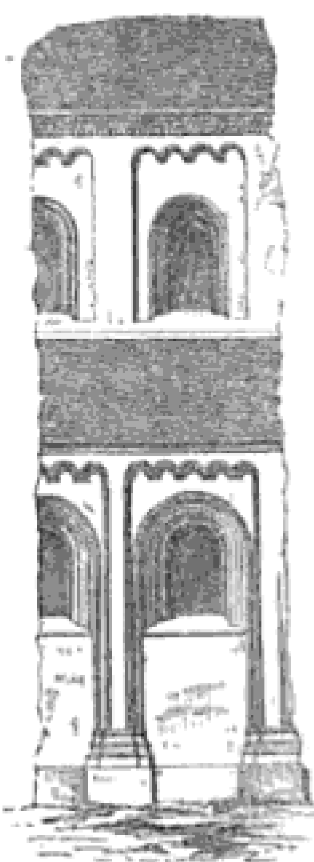
The church at Limburg on the Haardt, erected by the Emperor Conrad, A.D. 1035, is a similar but rather larger church than that at Hildesheim, possessing a peculiarity somewhat new in Germany, of a handsome western porch and entrance, and a choir with a square termination, instead of with an apse as was usual.

The three great typical buildings of this epoch are the Rhenish cathedrals of Mayence, Worms, and Spires. The first was commenced in the 10th century, and still possesses parts belonging to that age. The present edifice at Worms belongs principally to the building dedicated there in 1110. The age of the third and most important of these three cathedrals is still a matter of controversy, and one, I fear, that will not easily be settled; for the church has been so frequently damaged by fire and war, and lately by ill-judged restorations, that it is not easy to ascertain what is old and what new. Still I cannot help feeling convinced that the plan certainly, and a great part at least of the present structure, belong to the original building of Conrad, commenced in 1030, and which was dedicated by his grandson, Henry IV., 31 years afterwards.

Except the eastern apse, which is as usual flanked by 2 round towers, the whole of the exterior of Mayence has been so completely rebuilt, that little can now be said about it. The plan presents nothing remarkable, except that it is evident, from its solidity and arrangement, that it was meant from the beginning to be a vaulted building; and of its details only one doorway remains that can certainly be said to belong to the original foundation.[1] It is remarkable principally for the classicality of its details, which almost deserve the title of Romanesque; and if its age is correctly ascertained (the end of the 10th century), it would go far to confirm the date usually assigned to the portal at Lorsch, namely, the late Carlovingian period.[2]



447. Plan of Cathedral of Worms. From Geier and Görz. Scale 100 ft. to 1 in.



448. One Bay of Cathedral at Worms. From Geier and Görz.

At Worms the only part now remaining, of the edifice dedicated in 1110, is the eastern end. The western apse cannot be older than the year 1200, the intermediate parts having been erected between these dates. The original plan is probably nearly unchanged, and is a fine specimen of its class. The eastern apse is a curious compromise between the two modes of finishing that were in use at that

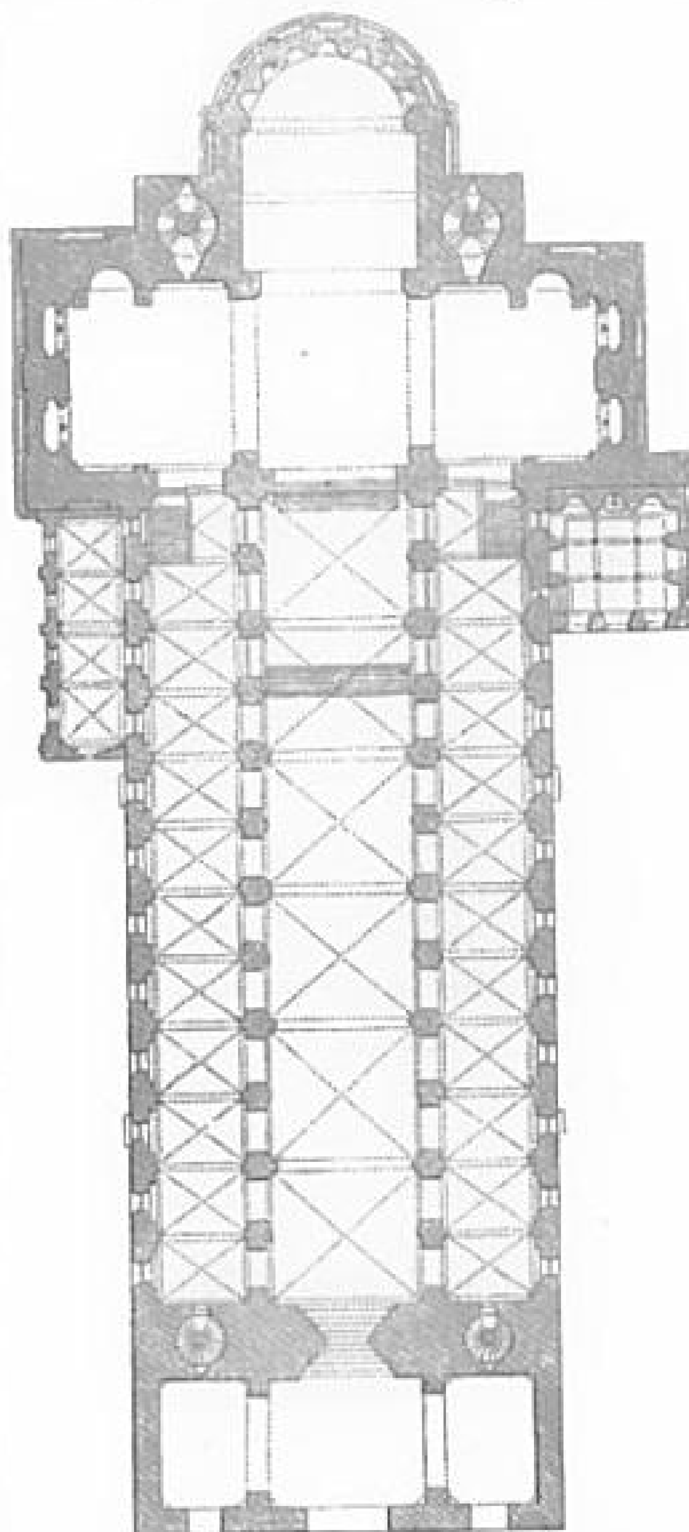
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[1] Möller, Deutsch Baukund, vol. i. plate vi.

[2] The dimensions of this building I have not been able to ascertain with sufficient correctness to quote. I possess four plans, all with great pretensions to accuracy, and with scales attached, but they differ so widely that I do not know which to follow.

period, being square externally, and circular in the interior. The best detail of this church is perhaps the pilaster-like buttresses of the nave (woodcut No. 448), which rise from elegant bases like those of classical pillars, and finish pleasingly with the circular cornice moulding so usual at this period. Internally, the clustered piers and larger windows give it a lightness and completeness which is not found in either of its great rivals.

Although the cathedral of Spires cannot boast of the elegance and finish of that of Worms, it is perhaps, taken as a whole, the finest specimen in Europe of a bold and simple building conceived, if I may so express myself, in a truly Doric spirit. Its general dimensions are 435 ft. in length by 125 in width; and taken with its adjuncts, it covers about 57,000 square feet, so that it is by no means one of the largest cathedrals of its class. It is built so solidly, that the supporting masses occupy nearly a fifth of the area. Like the other great building of Conrad's, the church of Limburg, this one possesses what is so rare in Germany, a narthex or porch, and its principal entrance faces the altar. Its great merit is the daring boldness and simplicity of its nave, which is 45 ft. wide between the piers, and 105 ft. high to the centre of the vault, dimensions never attained in England, though some of the French cathedrals equal or surpass them. There is a simple grandeur about the parts of this building which gives a value to the dimensions unknown in later times, and I question much if there is any mediæval church which impresses the spectator more by its appearance of size than this.

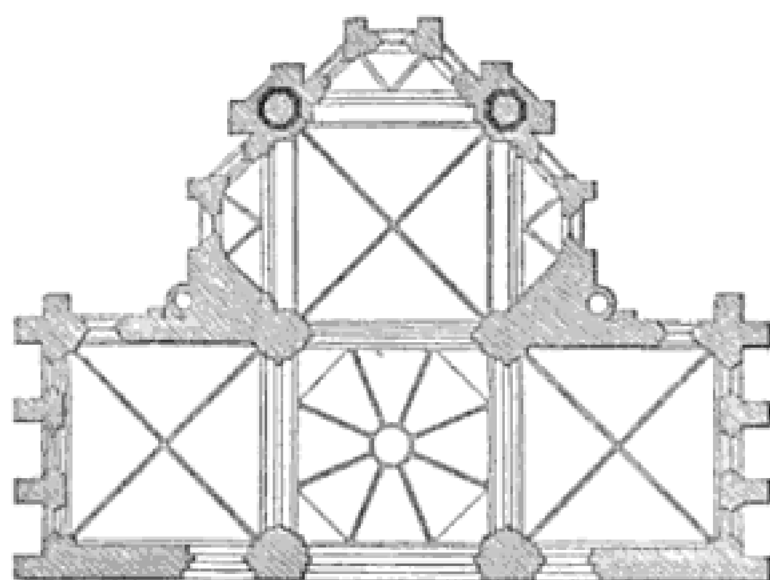


449. Plan of the Cathedral at Spires. From Geier and Görz. Scale 100 ft. to 1 in.

Externally, too, the body of the church has no ornament but its small window openings, and the gallery that runs round under all its roofs. But the bold square towers (certainly of the 12th century) and the central dome group pleasingly together, and, rising so far above the low roofs of the half-depopulated town at its feet, impress the spectator with awe and admiration at the boldness of the design and the grandeur with which it has been carried out. Taken altogether,

this noble building proves that the German architects at that time had actually produced a great and original style, and that they must have succeeded in perfecting it, had they not abandoned their task before it was half completed.

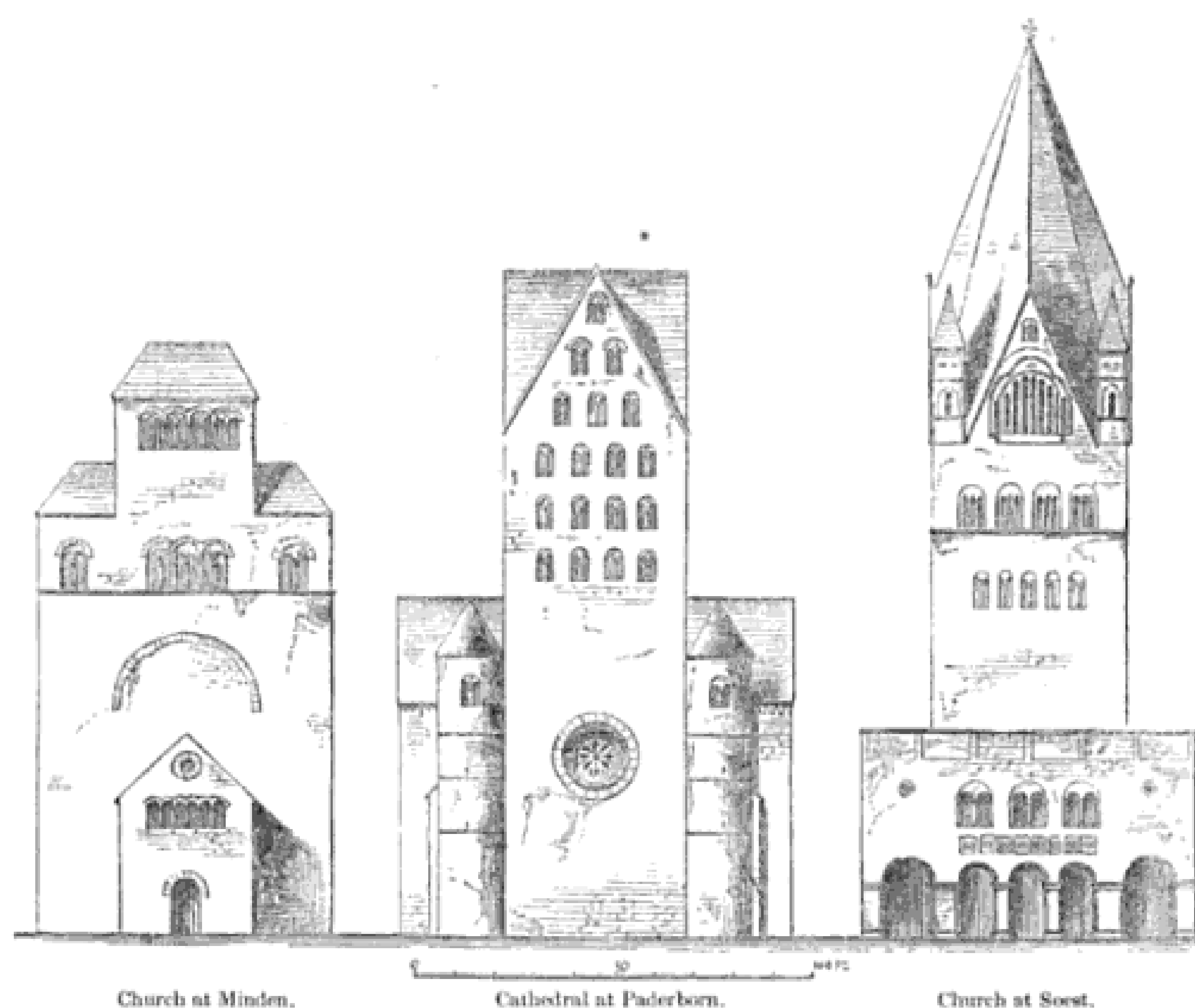
The western apse of the cathedral at Mayence is the most modern part of these three great cathedrals, and perhaps the only example in Germany where a triapsal arrangement has been attempted with polygonal instead of circular forms. In this instance, as shown in woodcut No. 450, the three apses, each formed of three sides of an octagon, are combined together so as to form a singularly spacious and elegant choir, both externally and internally as beautiful as anything of its kind in Germany. Its style is so nearly identical with that of the eastern apse of the cathedral at Trèves (woodcut No. 444), that there can be no doubt but that, like it, it belongs to the beginning of the 13th century, when more variety and angularity were coming into use, suggested no doubt by the greater convenience which flat surfaces presented for inserting larger windows over the older carved outlines. Now that painted glass had come generally into use, large openings had become indispensable for its display. Notwithstanding this advantage, and the great beauty of the other forms often adopted, none of them compensate for the loss of the circular lines of the older buildings.



450. Western Apse of Cathedral at Mayence.

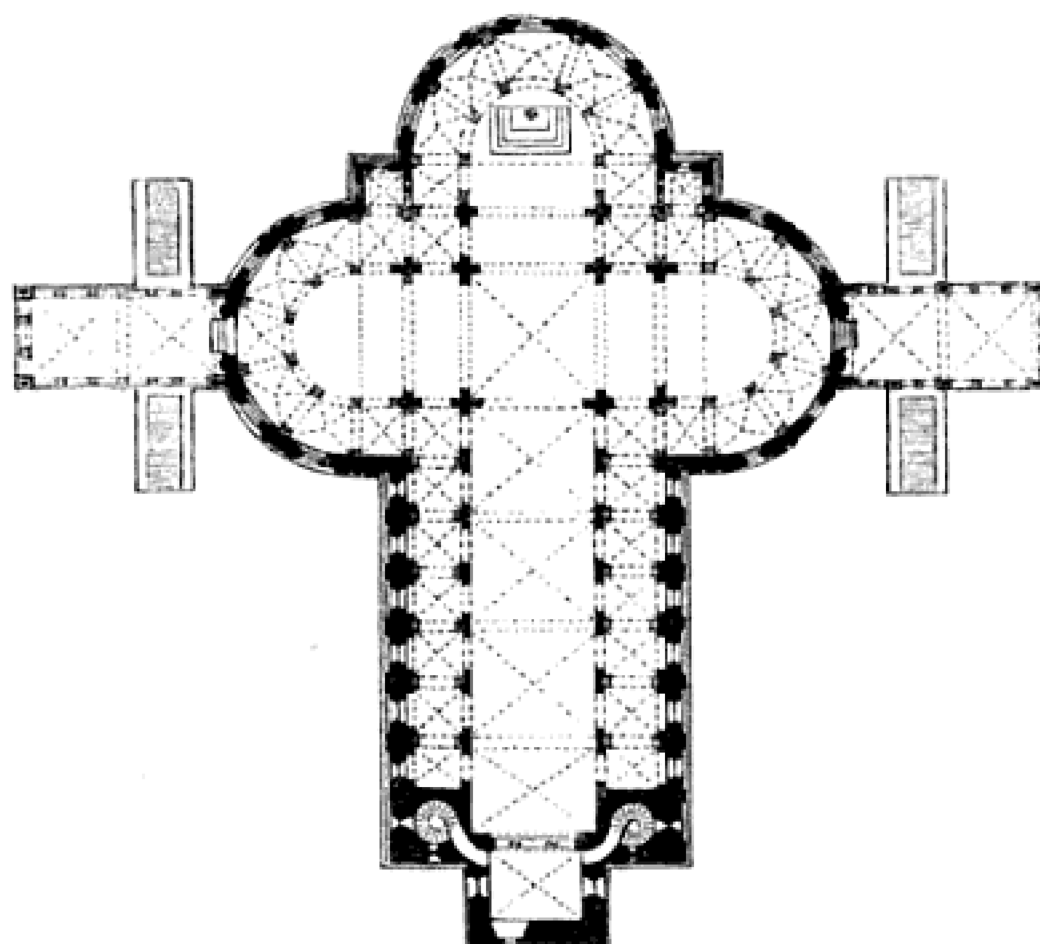
As a general rule, it may be asserted the churches of Westphalia are singularly devoid of taste and good design. They are extremely numerous, and many of them sufficiently large for architectural effect; but in the earlier or Round Gothic period they betray a clumsiness which is very unpleasing, and in the age of the Pointed Gothic their style is wire-drawn and attenuated to a degree almost worse than the heaviness of that which preceded it. The fact, indeed, is only too apparent, that the northern Germans were not an artistic people, for neither in Westphalia nor in any of the countries between it and the Baltic do we find any churches displaying that beauty of style or constructive appropriateness which characterises those of Cologne or the cities to the southward of that town.

A good deal of the heaviness of the northern churches internally may no doubt be traced to the circumstance that the earlier examples depended almost wholly on colour for their ornament, and the painting having disappeared, the plain stone or plaster surfaces remain, their flatness being made only the more prominent by the whitewash that now covers them. Notwithstanding these defects, so many of



451. From Mittelalterliche Kunst in Westfalen von W. Lübke.

these churches remain in a nearly unaltered state at the present day, that much information might be gleaned from a study of their peculiarities. The three examples, for instance, given in woodcut No. 451, illustrate very completely the progress of German spire-growth.



452. Sta. Maria in Capitulo, Cologne. From Boisserée's Nieder Rhein. Scale 100 ft. to 1 in.

The first, that of Minden, is a very early example of the façade screen so popular throughout Germany in the middle ages. The centre example, from the cathedral at Paderborn, belonging to the middle of the 11th century, shows one of the earliest attempts at a spire-like roof to a tower, four gables being used instead of the two which were generally employed. The third illustration, from Soest, about A.D. 1200, shows the transition complete. The four gables are still there, but do not extend to the angles, nor are they the principal roof. The corners are cut off, so as to suggest an octagon, and a second roof has grown up to the form of a spire, entirely eclipsing that suggested by the gables. In this instance also the tower has become a specimen of a complete design, and, though the narthex or porch has somewhat the appearance of being stuck on, the upper part of the tower is of considerable elegance.

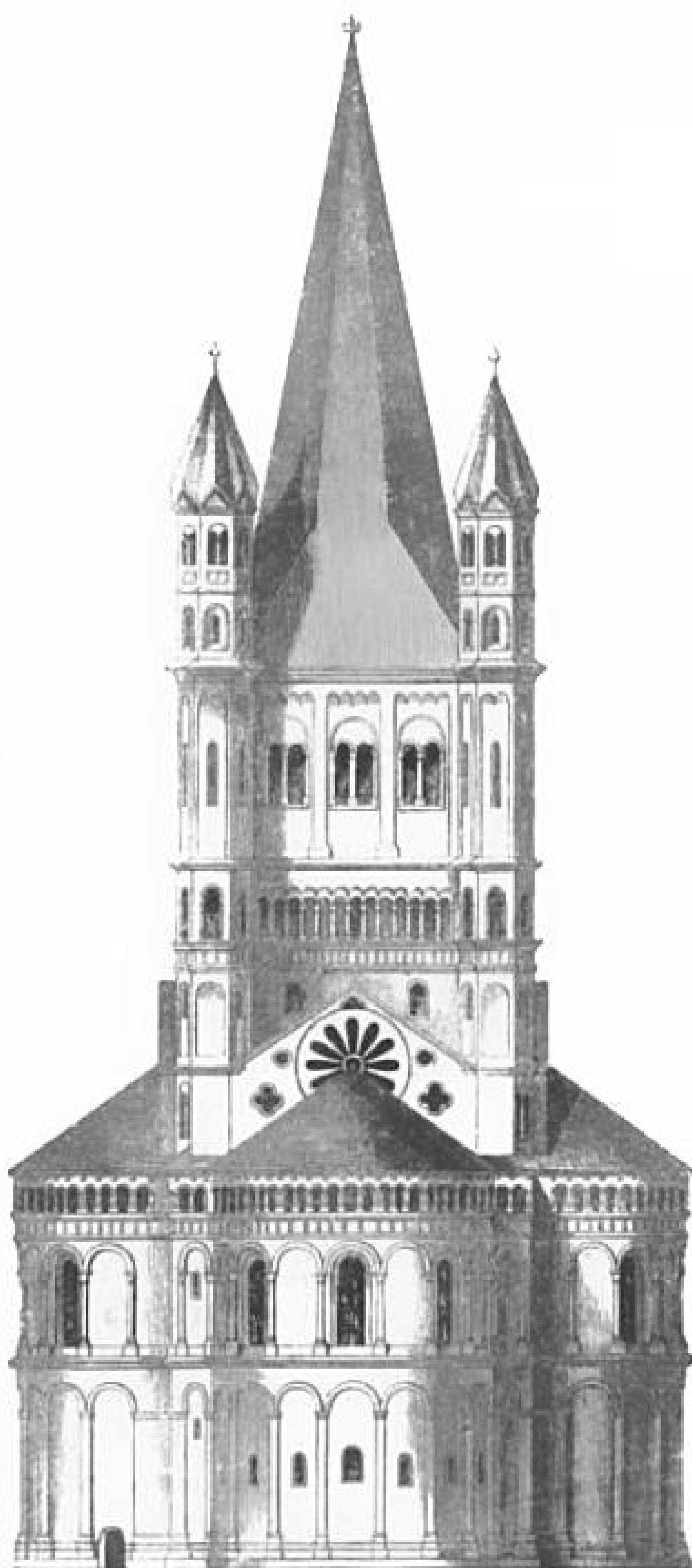
The same process of spire-growth can be traced to some extent both in England and in France, but on the whole it is by no means clear that the spire, properly so called, is not an invention from the



453. Apse of the Apostles' Church at Cologne. From Boisserée.

banks of the Rhine. Tallness of roof appears always to have been considered a beauty by German architects, and it seems to have been applied to towers earlier in Germany than in other countries.

Far more important than these, and surpassing them infinitely in beauty, is the group of churches which adorns the city of Cologne, the virtual capital, or at least the principal city, of Germany at the time of their erection. The old cathedral has perished and made way for the celebrated structure that now occupies its place. If it was like the restoration of it by Boisserée, it resembled Worms, and must have belonged to the 12th century; but there are no sufficient data for determining this point.

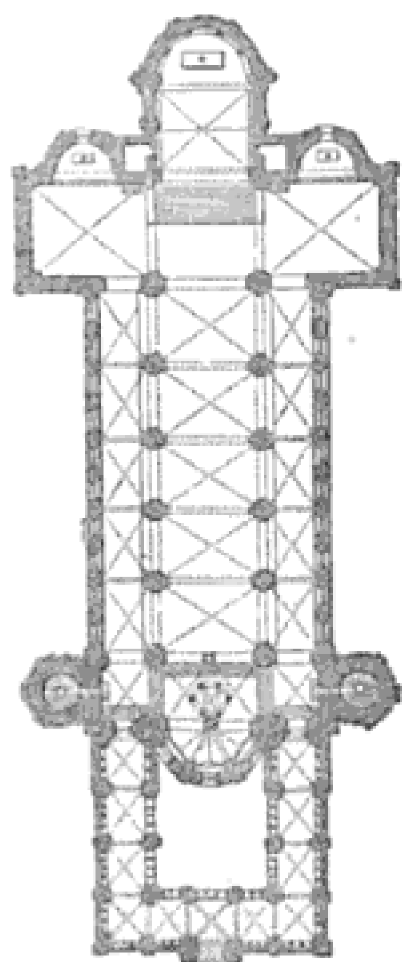


454. Apse of St. Martin's Church at Cologne. From Boisserée. Scale 50 ft. to 1 in.

Of the other churches, that of Sta. Maria in Capitulo (woodcut No. 452), is apparently the oldest; but of the church erected in the 10th century only the nave remains, and that considerably altered. The three noble apses that adorn the east end belong to the 12th, or perhaps to the 13th century. In plan these apses are more spacious than those of the Apostles' church or of that of St. Martin (woodcuts Nos. 453 and 454), this alone having a broad aisle running round each, which gives great breadth and variety to the perspective. The apse of the church of the Apostles (erected A.D. 1035) is far more beautiful externally. This building is perhaps, taken altogether, the most pleasing example of its class, though it has not the loftiness of the great church of St. Martin, which competes more directly with the aspiring tendencies of the pointed style. These three churches, taken together, illustrate suffi-

ciently the nature and capabilities of the style which we are describing. The arrangement with three apses possesses the architectural propriety of terminating nobly the interior to which it is applied. As the worshipper advances up the nave, the three apses open gradually upon him, and form a noble and appropriate climax without the effect being destroyed by something less magnificent beyond. But their most pleasing effect is external, where the three simple circular lines combine gracefully together, and form an elegant basement for the central dome or tower. Compared with the confused buttresses and pinnacles of the apses of the French pointed churches, it must certainly be admitted that the German designs are far nobler, as possessing more architectural propriety and more of the elements of true and simple beauty. They are small, it is true, and consequently it is not fair to compare them with such imposing edifices as the great and overpoweringly-magnificent cathedral of the same town; but among buildings on their own scale they stand as yet unrivalled. As they now are, perhaps their greatest defect is that the apses are not sufficiently supported by the naves. Generally these are of a different age and less ornate style, so that the complete effect of a well-balanced composition is wanting; but this does not suffice to overpower the great beauties they undoubtedly possess.

As is the case with almost all mediæval buildings, the greater number of churches of this age have been erected at different periods of time, and the designs altered as the work proceeded, to suit the taste of the day. This circumstance makes them particularly interesting to the architectural historian, though the artist and architect must always regret the incompleteness and want of harmony which this produces. An exception to this rule is found in the beautiful abbey church at Laach, erected between the years 1093 and 1156, therefore rather early in the style. Its dimensions are small, only 215 feet internally by 62; but this is compensated for by its completeness. It is one of the few churches that possess still the western paradisus or parvis, as shown in the remarkable ancient plan found at St. Gall.[1] The western apse is applied to its proper use of a tomb-house: besides this, it has its two central and four lateral towers, two of the latter being square, two circular. It is impossible to fancy anything more picturesquely pleasing than this group of towers of various heights and shapes, or a church producing a more striking effect with such diminutive dimensions as this one possesses, the highest point being only 140 ft. from the ground line. No church, however, of the pointed Gothic



455. Plan of Church at Laach. From Geier and Görz. Scale 100 ft. to 1 in.

[1] See p. 556 *et seqq.*

style has its sky-line so pleasingly broken, while the cornices and eaves still retain all the unbroken simplicity of classic examples, showing



456. View of Church at Laach. From Geier and Görz.

how easily the two forms might have been combined by following the path here indicated.

These are perhaps the finest and most typical buildings in this style, and sufficient to characterise the form of architecture in vogue in Germany in the great Hohenstaufen period, and in the century immediately preceding their accession to power; but they are not nearly all the really important buildings which during the epoch of true German greatness were erected in almost every considerable city of the empire. In Cologne itself there is the church of St. Gereon, the nave of which, with its crypt, belongs to the 11th century, the apse to the 12th, and the decagonal domed part to the 13th. This is a most interesting specimen of transition architecture, and as such will be mentioned hereafter. So is the church of St. Cunibert, dedicated in 1248, and hardly more advanced in style than the abbey of St. Denis near Paris, built at least a century earlier. The churches of St. George and of Sion in the same city afford interesting examples of the style. More important, however, than these are the cathedral at Bonn, the noble church at Andernach, the abbey church of Heisterbach, and that of St. Guerin in Neuss. In the same neighbourhood the little church of Zinsig is a pleasing specimen of the age when the Germans had laid aside the bold simplicity of their earlier forms to adopt the more ele-

gant and sparkling contours of pointed architecture.[1] A little farther up the Rhine the church of St. Castor at Coblentz agreeably exemplifies



457. Church at Zinzig. From Boisserée.

the later style (1157-1208). Its apse is one of the widest and boldest of its class, though deficient in height.

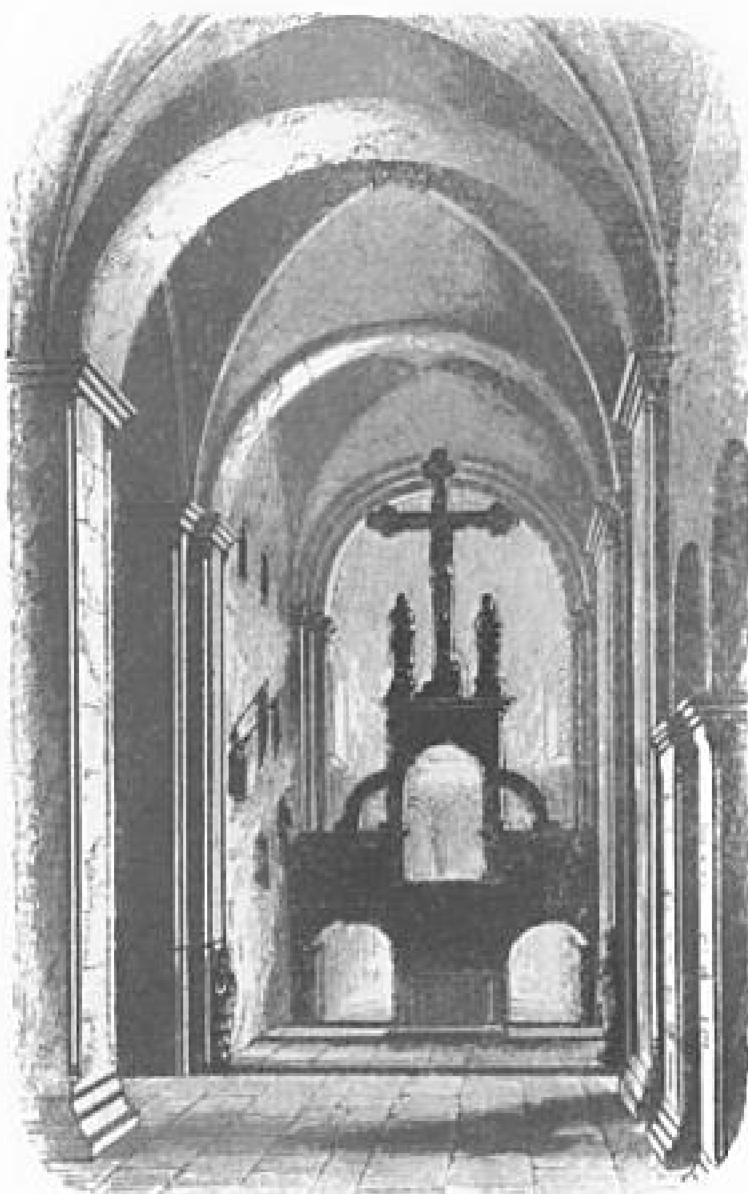
The neighbourhood of Trèves has also some excellent specimens of round Gothic, among which may be mentioned the abbey of Echternach, the church of St. Mathias, and the interesting and elegant church of Morzig.[2]

In Saxony there are many beautiful, though no very extensive, examples of the German style. Among these the two ruined abbeys

[1] For particulars of more of these churches, see Boisserée, Nieder Rhein.

[2] See Schmidt, Baudenkmale Trier, where all these are figured.

of Paulinzelle and Thal Burgal, neither of them vaulted churches, are remarkable for the simple elegance of their forms and details, showing how graceful the style was becoming before the pointed arch was introduced. The church at Wechelburg is also interesting, though somewhat gloomy, and retains a rood screen of the 12th century (woodcut No. 458), which is a rare and pleasing example of its class. The church at Hechlingen also deserves mention, and the fragment of the abbey at Gollingen is a pleasing instance of the pure Italian class of design sometimes found in Germany at this age. Its crypt, too, affords an example of vaulting of great elegance and lightness, obtained by introducing the horse-shoe arch or an arch more than half a circle in extent, which takes off the appearance of great pressure upon the capital of the pillar, and gives the vault that height and lightness which were afterwards sought for and obtained by the introduction of the pointed arch. It is still a question whether this was not the more pleasing expedient of the two. There was one objection to the use of this horse-shoe shape, that considerable difficulty arose in using arches of different spans in the same roof, which with pointed arches became perfectly easy.



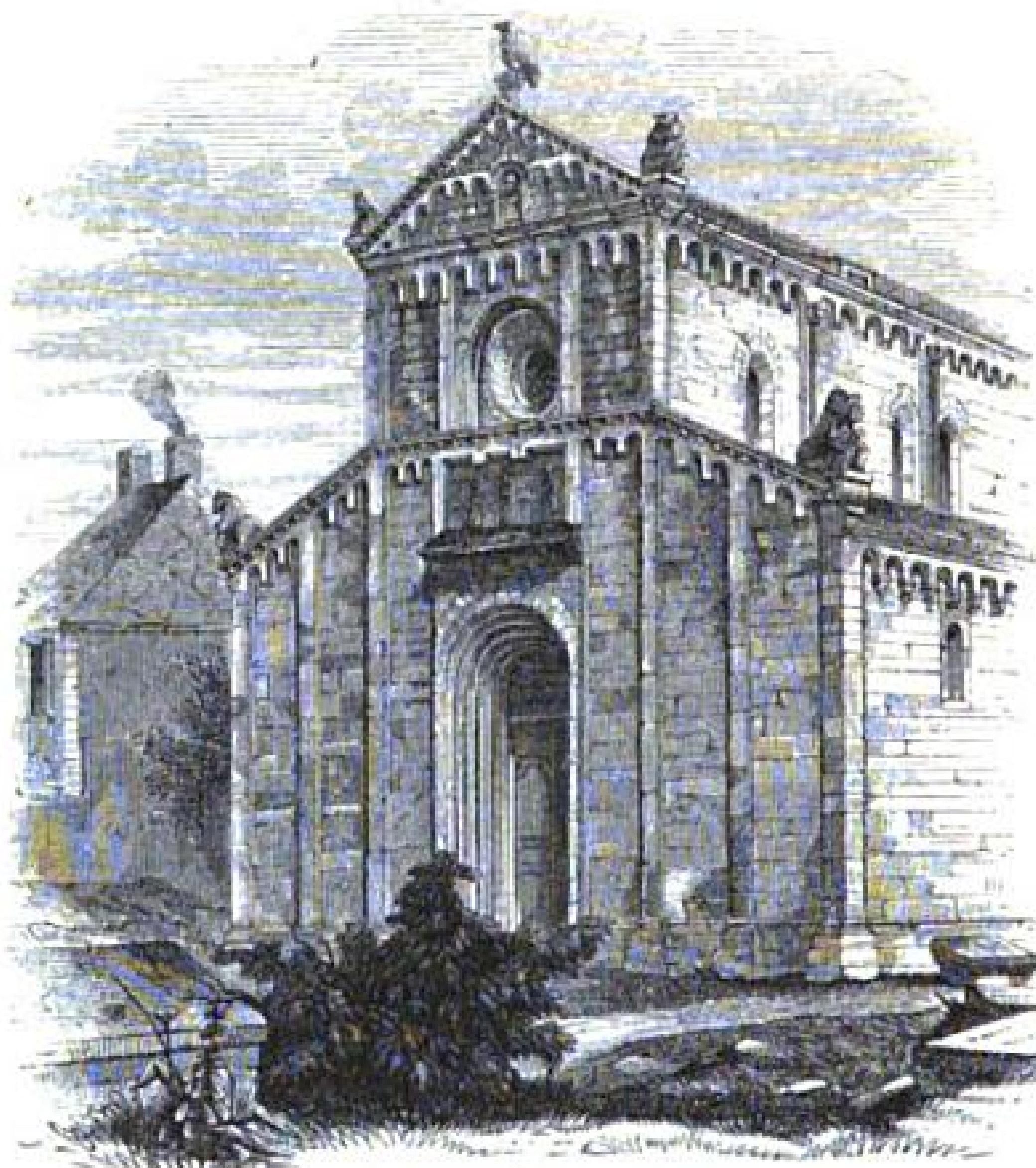
458. Rood Screen at Wechelburg. From Puttrich.



459. Crypt at Göllingen. From Puttrich.

Another example of the Italian mode of design is found in the church of Rosheim in Alsace, the façade of which (woodcut No. 460) might as well be found in Verona as on this side of the Alps. Its interior

is of pleasing design, though bolder and more massive than the exterior would lead us to expect.



460. Façade of the Church at Rosheim. From Chapuy.

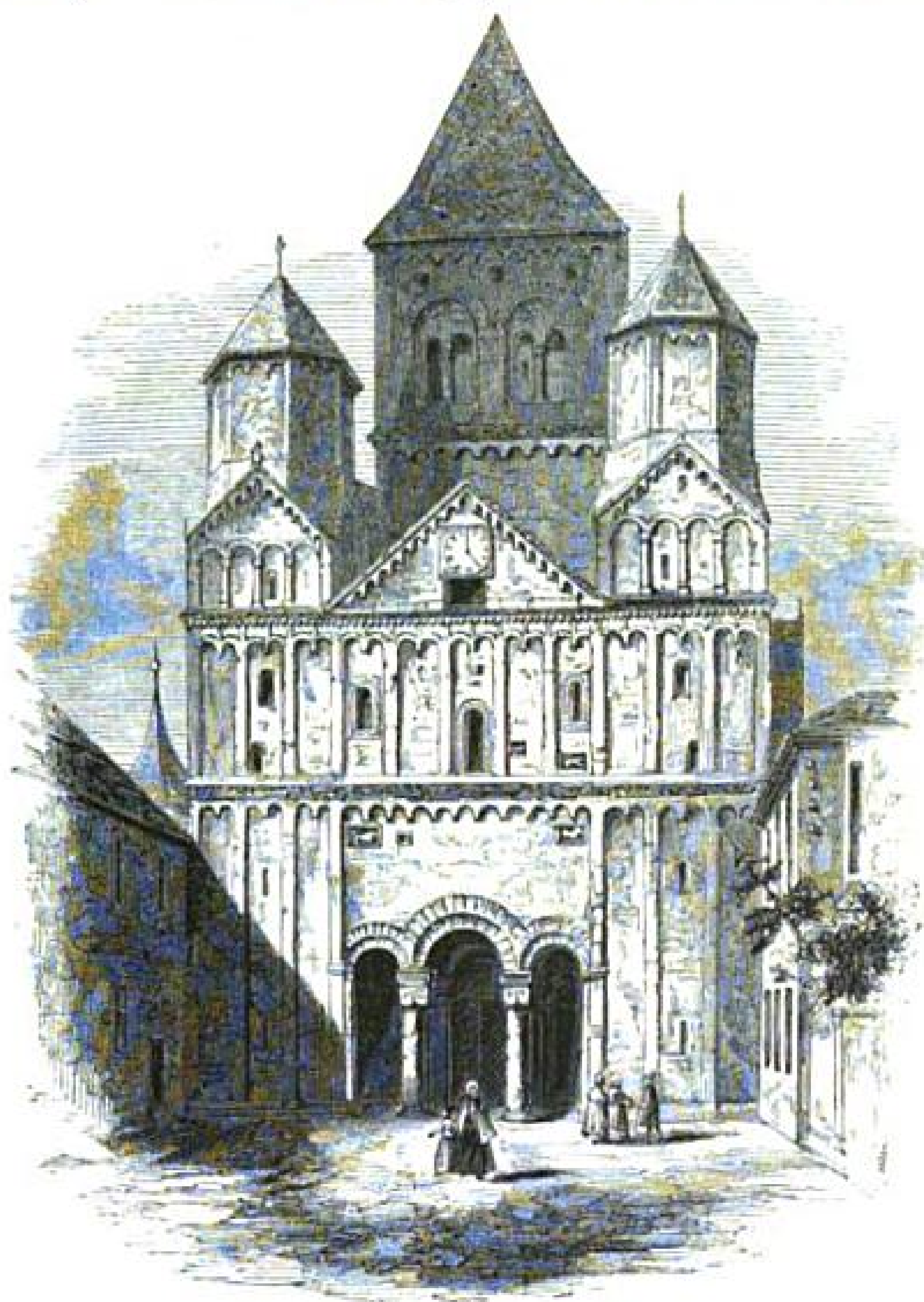
The façades of the church of Marmoutier in the same province, and of the cathedral of Guebwiller, are two examples—very similar to one another—of a compromise between the purely German and purely Italian styles of design. The small openings in the former look almost like those of a southern clime, but in its present locality give to the church an appearance of gloom by no means usual. Still it has the merit of vigorous and purpose-like character.

At Bamberg the church of St. Jacob is well worthy of attention. The Scotch church at Ratisbon is one of the best specimens in Germany of a simple basilica without transepts or towers. Its principal entrance is a bold and elegant piece of design, covered with grotesque figures whose meaning it is difficult to understand. Had it been placed at the end of the church, it might have formed the basis of a magnificent façade; but stuck as it is unsymmetrically on one side, it loses half its effect, and can only be considered as a detached piece of ornamentation, which is here, as it generally is, fatal to its effect as an architectural composition.

Before leaving ecclesiastical buildings, it is necessary to allude to a class of double churches and double chapels. Of these the typical example is the church of Swartz Rheindorf,[1] dedicated in the year

[1] Die Doppelkirche zu S.R.D., by Andreas Simons: Bonn, 1846.

1151. It is in itself a pleasing specimen of the style, irrespective of its peculiarity. It is, however, simply a church in two stories. At first

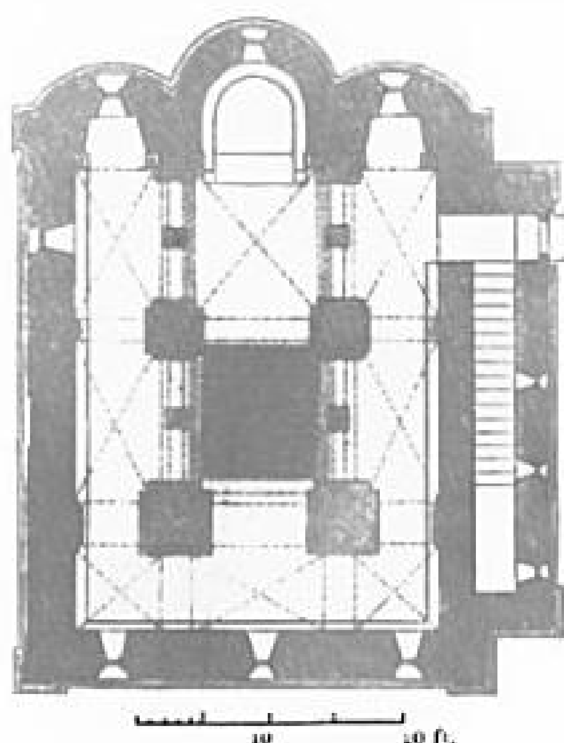


461. Church at Marmoutier. From Chapuy.

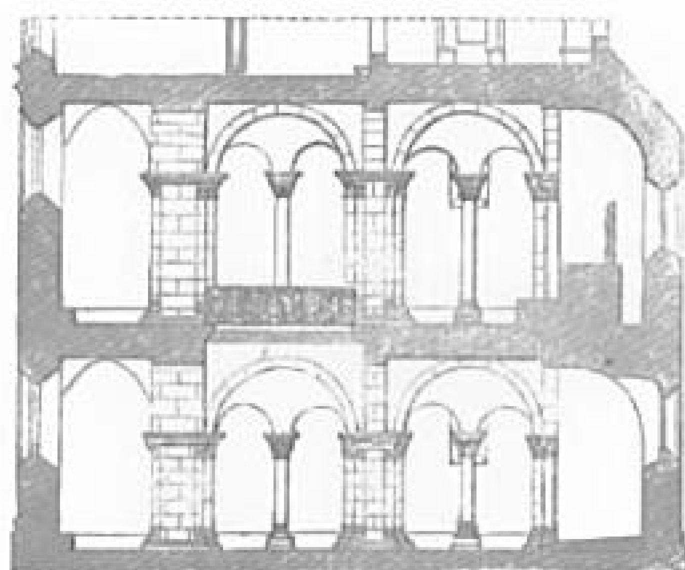
sight the lower one looks like an extensive crypt. This, however, does not seem to have been its purpose, but rather an increase of accommodation, to enable two congregations to hear the same service at the same time, there being always in the centre of the floor of the upper church an opening sufficient for those above to hear the service, and for some of them at least to see the altar below. In castle chapels, where this method is most common, the upper story seems to have been occupied by the noblesse, the lower by their retainers, which makes the arrangement intelligible enough.

In the castle at Nuremberg there is an old double chapel of this sort, but it does not appear in this instance that there was an opening between the two: if it existed, it has been stopped up. There is another at Eger, and two described by Puttrich in his beautiful work on Saxony: one of these, the chapel at Landsberg near Halle, is given in plan and section in woodcuts No. 462 and No. 463; and though small,

being only 40 ft. by 28 internally, presents some beautiful combinations, and the details are finished with a degree of elegance not gene-



462. Plan of Chapel at Landsberg. From Puttrich.



463. Section of Chapel at Landsberg. From Puttrich.

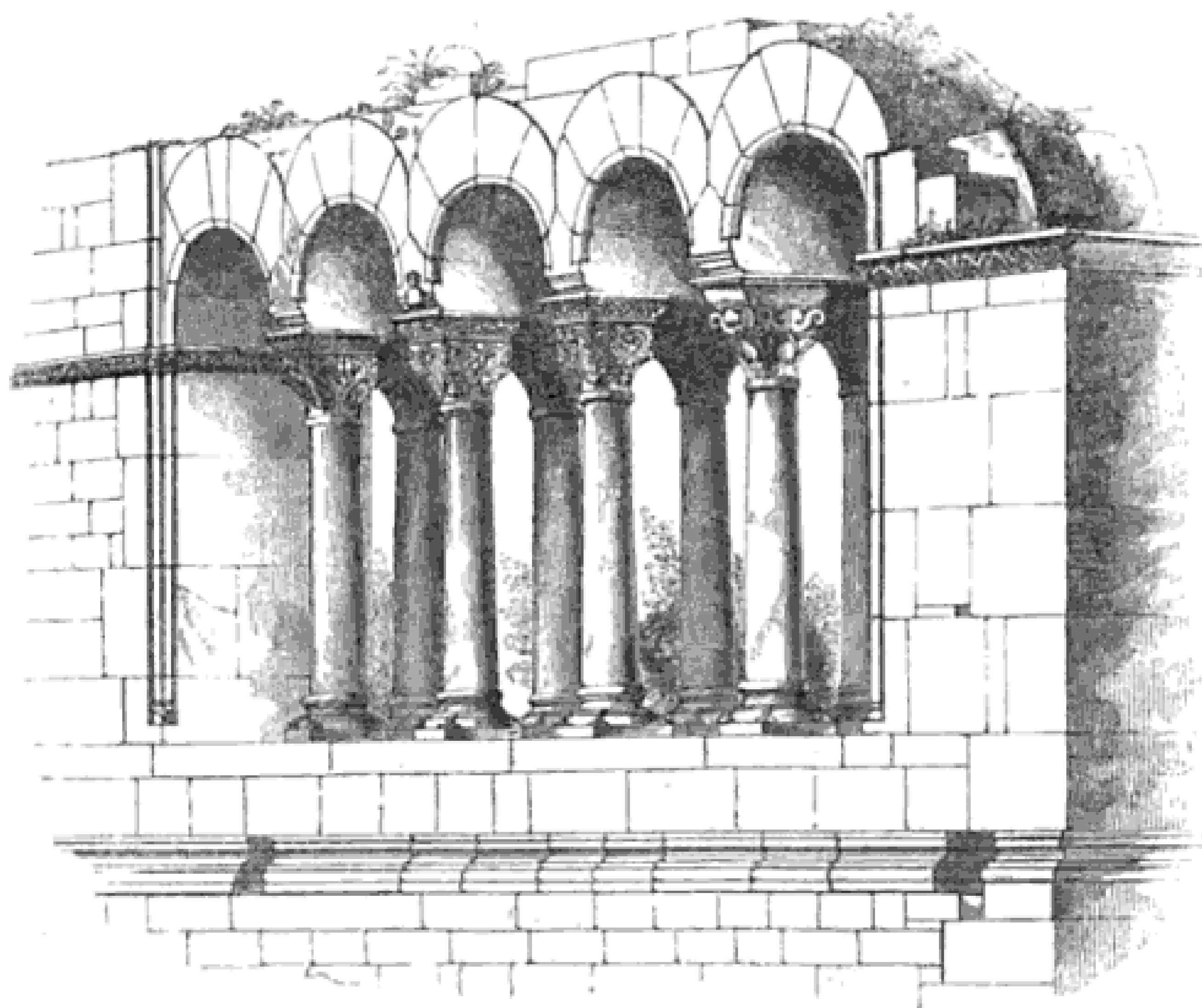
rally found in larger edifices: the other, that at Freiburg on the Unstrutt, measuring 21 ft. by 28, is altogether the best of the class, from the beauty of its capitals and the finish of every part of it. It belongs in time to the very end of the 12th, or rather perhaps to the 13th century, and from the form of its vaults and the foliation of their principal ribs, one is almost inclined to bring it down to a later period; for it would be by no means wonderful if in a gem like this the lords of the castle should revert to their old German style instead of adopting foreign innovations. The windows are of pointed Gothic, and do not appear like insertions.

CHAPTER V.

DOMESTIC ARCHITECTURE.

CONTENTS.

As might be expected, the remains of domestic architecture are few and insignificant as compared with those of the great monumental churches, which in that age were the buildings *par excellence* on which the wealth, the talent, and the energy of the nation were so profusely lavished. Nothing now remains of the palaces which Charlemagne built at Ingelheim or at Aix-la-Chapelle, nor of the residences of many of his successors, till we come to the period of the Hohenstaufens. Of their palaces at Gelnhausen and the Wartburg enough remains to tell us at least in what style and with what degree of taste they were erected, and the remains of the contemporary castle of Muenzenberg complete, as far as we can ever now expect it to be completed, our knowledge of the subject.



464. Arcade of the Palace at Gelnhausen. From Müller.

Besides these a considerable number of ecclesiastical cloistered edifices still remain, and some important dwelling-houses in Cologne and elsewhere; but altogether our knowledge is somewhat meagre, a circumstance that is much to be lamented, as from what we do find, we cannot fail to form a high idea of the state of the domestic arts of building at that period.

All that remains of the once splendid palace of Barbarossa at Gelnhausen is a chapel very similar to those described in the last chapter; it is architecturally a double chapel, except that the lower story was used as the hall of entrance to the palace, and not for divine service. To the left of this were the principal apartments of the palace, presenting a façade of about 112 ft. in length, and probably half as high. Along the front ran a corridor about 10 ft. deep, a precaution apparently necessary to keep out rain before glass came to be generally used. Behind this there seem to have been three rooms on each floor, the largest, or throne-room, being about 50 ft. square. The principal architectural features of what remains are the open arcades of the façade, one of which is represented in the last woodcut. For elegance of proportion and beauty of detail they are unsurpassed by anything of the age, and certainly give a very high idea of the degree of excellence to which architecture and the decorative arts had then been carried.

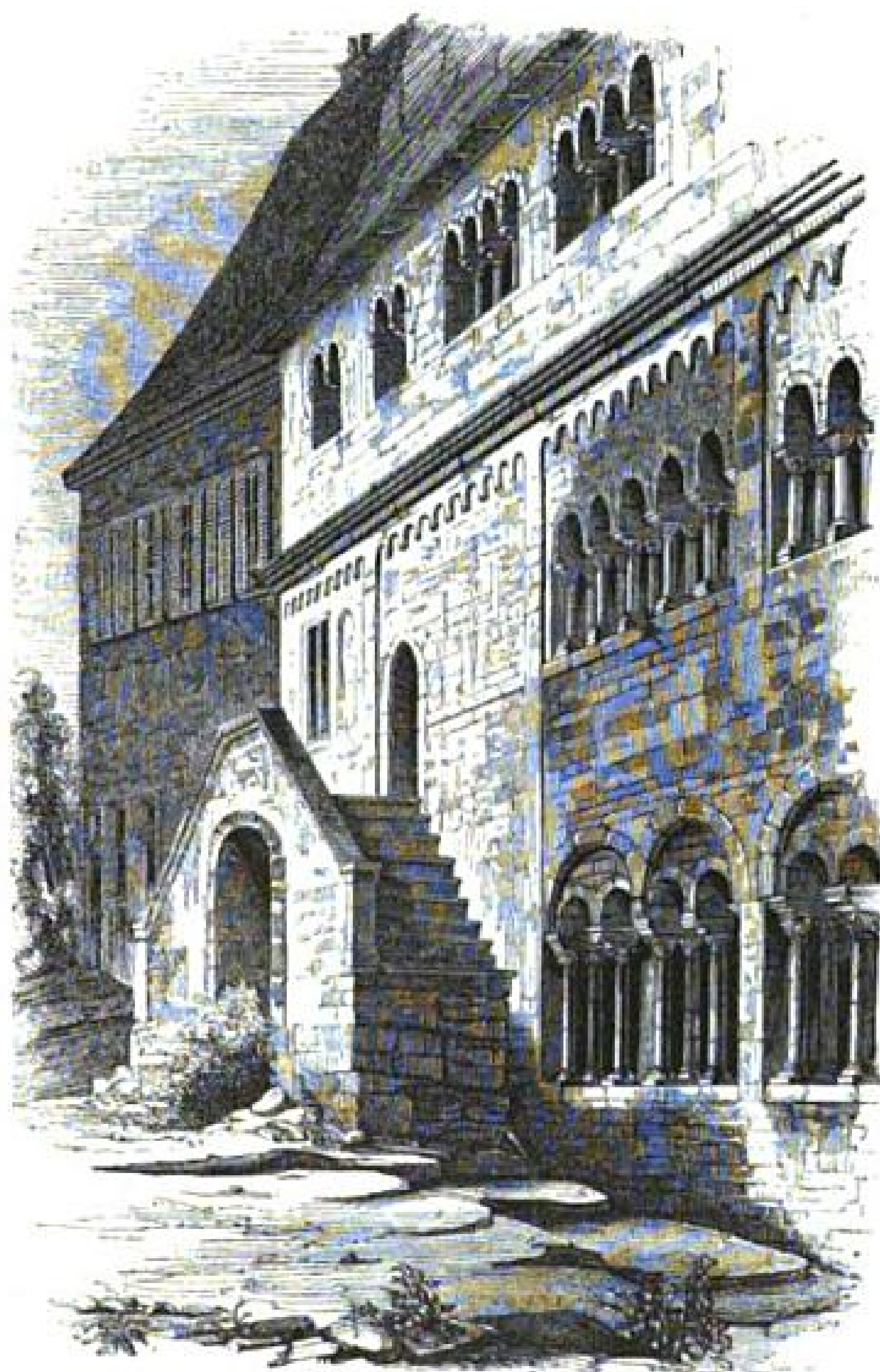

465. Capital, Gelnhausen. From Möller, Denkmäler.

The castle on the Wartburg is historically the most important edifice of its class in Germany, and its size and state of preservation render it equally remarkable in an artistic point of view. It was in one of its halls that the celebrated contest was held between the six most eminent poets of Germany in the year 1206, which, though it nearly ended fatally to one of them at least, shows how much importance was attached to the profession of literature at even that early period. Here the sainted Elizabeth of Hungary lived with her cruel brother-in-law; here she practised those virtues and endured those misfortunes that render her name so dear and so familiar to all the races of Germany; and it was in this castle that Luther found shelter after leaving the Diet at Worms, and where he resided under the name of Ritter George, till happier times enabled him to resume his labours abroad.

The principal building in the castle where these events took place closely resembles that at Gelnhausen, except that it is larger, being 130 ft. in length by 50 in width. It is three stories in height, without counting the basement, which is added to the height at one end by the slope of the ground.

All along the front of every story is an open corridor leading to the inner rooms, the dimensions of which cannot now be easily ascertained, owing to the castle having been always inhabited, and altered

in modern times to suit the convenience and wants of its recent occupiers. In its details it has hardly the elegance of Gelnhausen, but its general appearance is solid and imposing, the whole effect being obtained by the grouping of the openings, in which respect it resembles the older palaces at Venice more than any other buildings of the class. It has not perhaps their minute elegance, but it far surpasses them in grandeur and in all the elements of true architectural magnificence. Recently it has been restored, apparently with considerable judgment, and it well deserves the pains bestowed upon it as one of the best illustrations of its style still existing in Europe.



466. View of the Wartburg. From Puttrich.

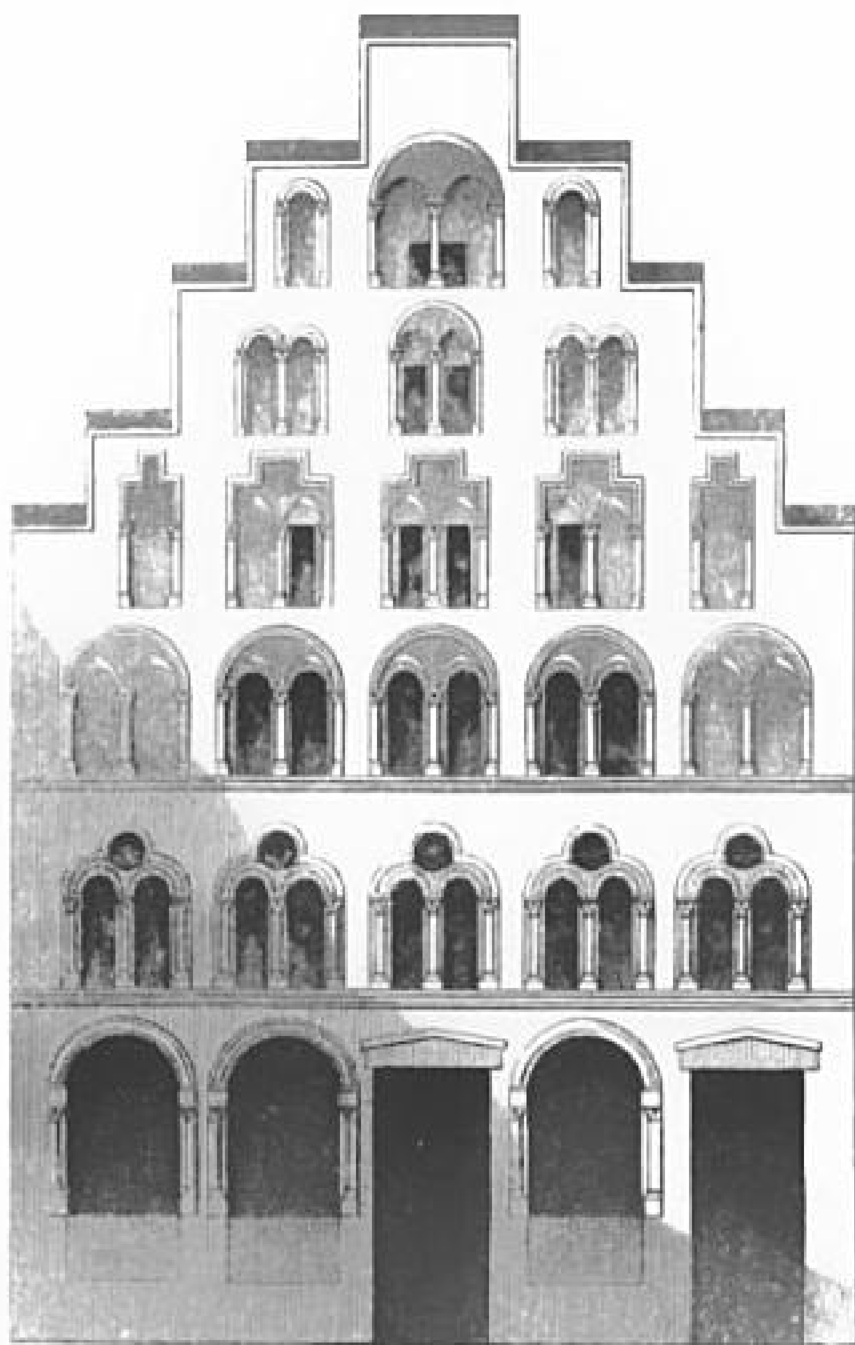
The castle on the Muenzenberg, like those of Gelnhausen and Wartburg, belongs to the 13th century, and, though less important, is hardly less elegant than either. It derives a peculiar species of picturesqueness from being built principally of the prismatic basalt of the neighbourhood, using the crystals in their natural form, and where these were not available, the stones have been rusticated with a bold-

ness that gives great value to the more ornamental parts, in themselves objects of considerable beauty.

None of these castles have much pretension to interest or magnificence as fortifications, which gives an idea of more peaceful times and more settled security than we could quite expect in that age, especially as we find in the period of the pointed style so many and such splendid fortifications crowning every eminence along the banks of the Rhine, and indeed in every corner of the land. They may have been rebuildings of castles of this date, but I am not aware of any having been ascertained to be so.

There is no want of specimens of conventual buildings and cloisters in Germany of this age; but every one is singularly deficient both in design as a whole and in elegance of parts. Not one, for instance, can compare with the beauty of Zurich. The elegant arcades of the palaces we have just been describing nowhere reappear in conventual buildings. Why this should be so it is difficult to understand, but such certainly is the fact.

The best collection of examples of German convents is found in Boisserée's 'Nieder Rhein.' But neither those of St. Gereon nor of the Apostles, nor St. Pantaleone at Cologne, merit attention as works of art, though certainly curious as historical monuments; and the lateral galleries of Sta. Maria in Capitulo are even inferior in design, though their resemblance to the style of Ravenna gives them value archaeologically. The same remarks apply to the cloisters at Heisterbach, and even to the more elegant transitional buildings at Altenberg. Almost all these examples, nevertheless, possess some elegant capitals and some parts worthy of study; but they are badly put together and badly used, so that the pleasing effect of a cloistered court and conventual buildings is here almost entirely lost. The cause of this is hard to explain, when we see

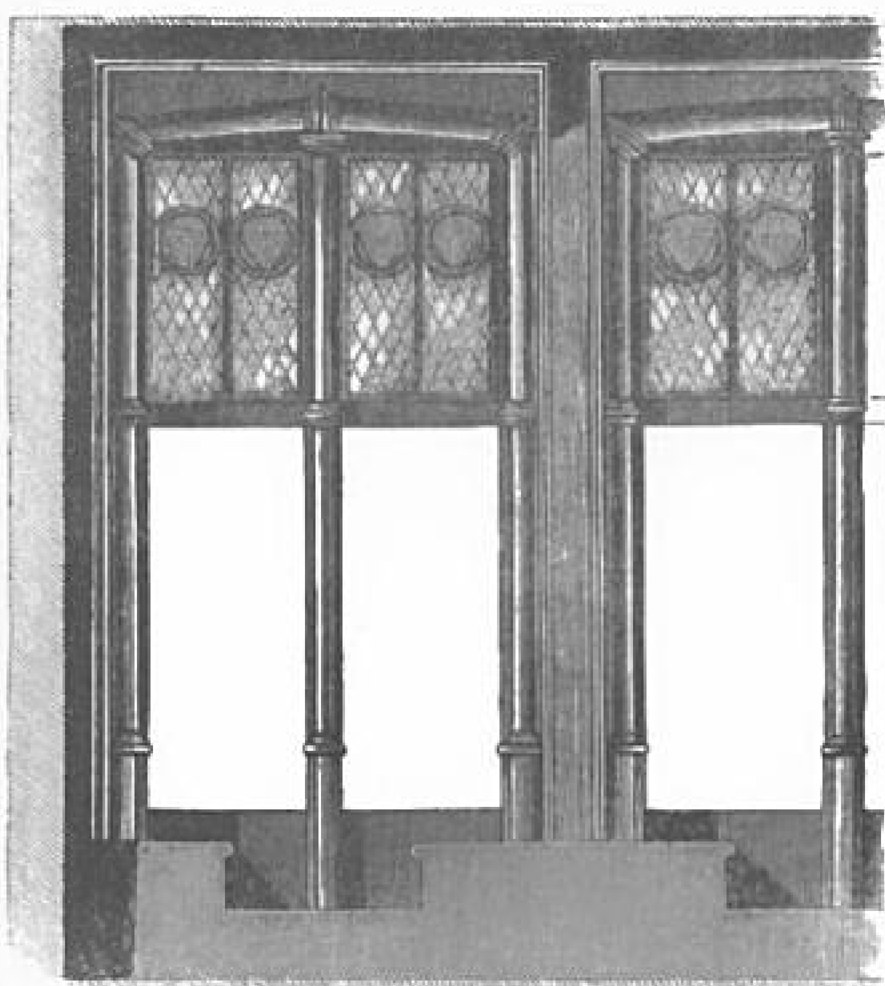


467. Dwelling-house, Cologne. From Boisserée.

so much beauty of design in the buildings to which they are generally accompaniments.

There are several dwelling-houses in Cologne and elsewhere which show how early German town residences assumed the tall gabled fronts which they retained to a very late period through all the changes which took place in the details with which they were carried out. In the illustration (woodcut No. 467) there is little ornament, but the forms of the windows and the general disposition of the parts are pleasing, and the general effect produced certainly satisfactory. The size of the lower windows is remarkable for the age, and the details are pure, and executed with a degree of lightness which we are far from considering as a general characteristic of so early a style.

The windows at the back of the house, illustrated in the last woodcut, are so large, that were it not for the unmistakeable character of the first, and of some of its details, we might be inclined to suspect that it belonged to a much more modern age. As shown in the woodcut No. 468, its details are as elegant as anything in domestic architecture of the pointed style.



468. Back Windows in Dwelling-house, Cologne.

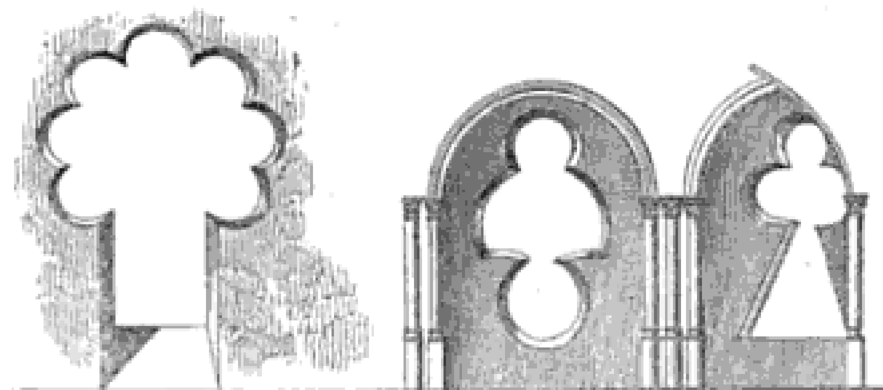
There are several minor peculiarities which perhaps it might be more regular to mention here, but which it will be more convenient to allude to when we return to Germany in speaking of the pointed style. One, however, cannot thus be passed over—the form which windows in churches and cloisters were beginning to assume just before the period when the transition to the pointed style took place.

Up to that period the Germans showed no tendency to adopt window tracery, in the sense in which it was afterwards understood, nor to divide their windows into compartments by mullions. I do not even know of an instance in any church of the windows being so grouped together as to suggest such an expedient. All their older windows, on the contrary, are simple round-headed openings, with the jambs more or less ornamented by nook-shafts and other such expedients. At the end of the 12th and beginning of the 13th century they seem to have desired to render the openings more ornamental, probably because tracery had to a certain extent been adopted in

France and the Netherlands at that period. They did this first by foiling circles and semicircles, the former a pleasing, the latter a very unpleasing, form of window, but not so bad as the three-quarter windows—if I may so call them—used in the church of Sion at Cologne (woodcut No. 469) and elsewhere: these, however, are hardly so objectionable as the fantastic shapes they sometimes assumed, as in these examples (woodcut No. 470), taken from St. Guerin at Neuss. Many others might be quoted whose forms are constructively bad without being redeemed by an elegance of outline that sometimes enables us to overlook their other faults. The more fantastic of these, it is true, were seldom glazed, but mere openings in towers or into roofs. These windows are also found generally in transition specimens when men are trying experiments before settling down to a new course of design. Notwithstanding this, they are very objectionable, and are the one thing that shakes the confidence that might otherwise be felt in the power of the old German style to perfect itself without foreign aid.



469. Windows from Sion Church, Cologne. From Boisserée.



470. Windows from St. Guerin at Neuss. From Boisserée.

BOOK III.

FRANCE.

CHAPTER I.

CONTENTS.

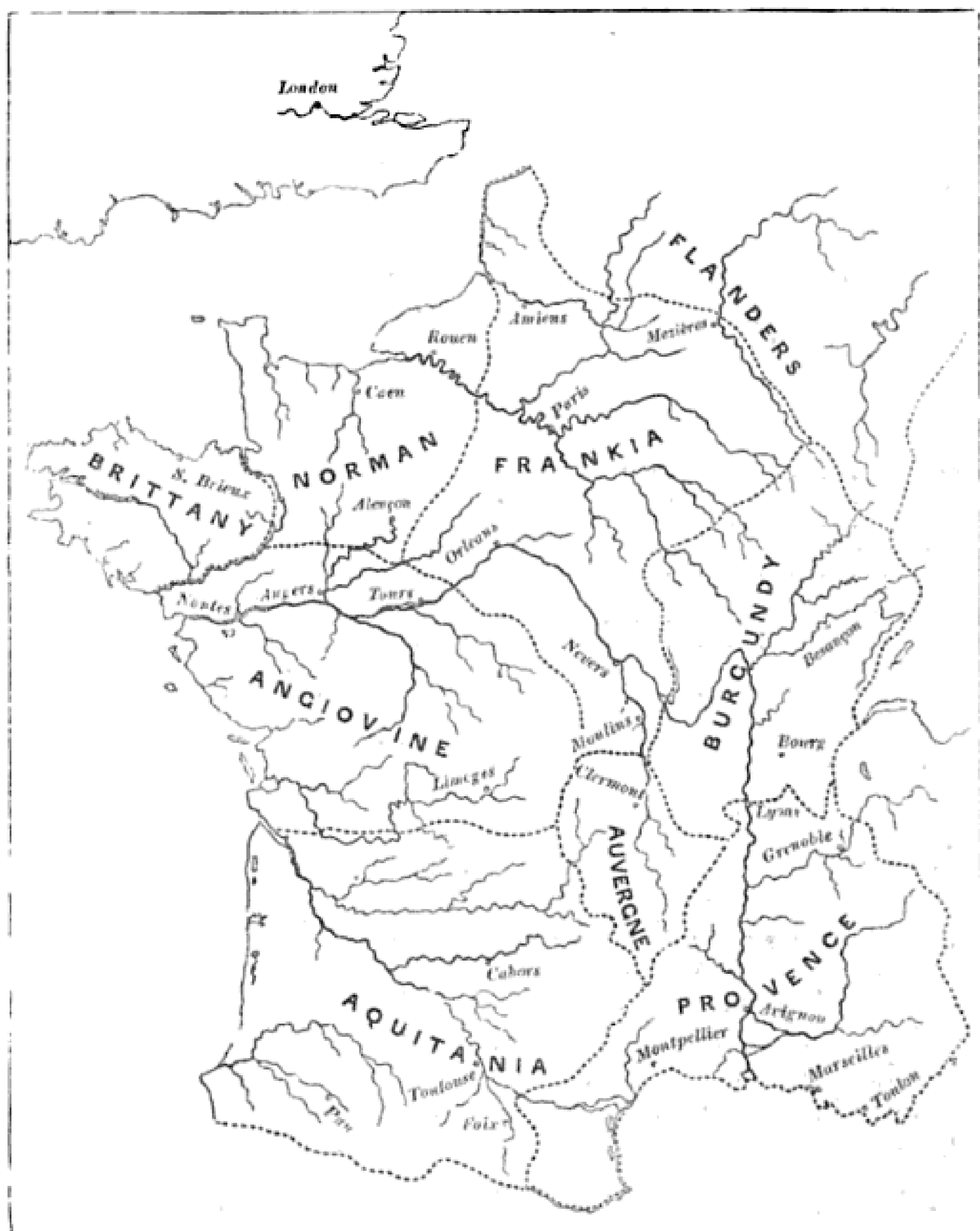
CHRONOLOGY.

	DATES.		DATES.
Charlemagne	A.D. 768-813	Philip III., the Hardy	A.D. 1270
Rollo, first Duke of Normandy	911	Philip IV., or the Fair	1285
Hugh Capet	987	Philip VI. of Valois	1328
William II. of Normandy, or the Conqueror	1055-1086	Battle of Crecy	1346
Henry I. of France	1031	John II., the Good	1350
Philip I., or l'Amoureux	1060	Charles V., the Wise	1364
Louis VI., or le Gros	1108	Charles VI., the Beloved	1380
Louis VII., or le Jeune	1137	Charles VII., the Victorious	1422
St. Bernard of Clairvaux	1091-1153	Joan of Arc	1412-1431
Philip II., or l'Auguste	1180	Louis XI.	1461
Louis VIII., or the Lion	1223	Charles VIII.	1483
Louis IX., or the Saint	1226	Louis XII.	1498
		Francis I.	1515

IT is only of late years that the antiquaries of France have turned their attention to the mediæval monuments of their country. The progress that has been made is worthy of that brilliant people, and of the zeal and rapidity with which they enter upon any new undertaking. Still the subject must be considered as hitherto far from being thoroughly and systematically known. French architecture presents a field of inquiry of vast extent. This is owing to the circumstance that no country in Europe presents so many nationalities mixed together in such inextricable confusion as the now uniform and united empire of France. It is not at the present day easy to understand how many races, religions, and customs have been swept away and levelled during the eight centuries of wars, persecutions, and despotism which have reduced her to one religion, one language, and one central government ramifying to the remotest corners of the land; but till they are known and understood, it is in vain to hope to appreciate either the history or the forms of the beautiful style of architecture that adorns every part of the land. At the same time, it is perhaps only through this architecture that we can either understand or know what these races were, and what their

history or locality. In no other country is the importance of the mutual relations of ethnography and architecture so evident as in France.

The annexed map, though imperfect, points out the chief divisions of the subject before the progress of Frankish domination and the crusades against the Waldenses had obliterated some of the principal distinctions of the country.[1] Its main features must be



471. Map of the Architectural Division of France.

[1] A small chart of the same sort has been published by M. de Caumont,[a] which, though an improvement, still leaves much to be desired; but until every church is examined, and every typical specimen at least published, it is impossible to mark out more than the general features of the chart. Imperfect, however, as they are in this one, they are still more numerous and more detailed than it will be easy for us to follow and to trace out in the limited space of this work.

[a] Abécédaire d'Architecture, p. 174.

pointed out and borne in mind, or the sequel will be nearly unintelligible.

The first and most obvious subdivision of France is that into the provinces of North and South, by a line passing through the valley of the Loire. To the north of it, the Franks, Burgundians, and Normans—all German races or closely allied to them—settled in such numbers as nearly to obliterate the original Celtic and other races, introducing their own feudal customs, and a style of architecture not only essentially Gothic, but virtually the Gothic *par excellence*.

To the south of this line the Teutonic races never settled, nor did they gain the ascendancy here till after the campaigns of Simon de Montfort, before alluded to, when the sword and the faggot extinguished the Protestantism of the races, and introduced a bastard Gothic style into the land. Before that time the Romanesque style, derived from the Romans, had gradually been undergoing a process of change and naturalization, taking a form in which we can trace the gradually rising influence of the Northern styles. It was, like the German Round Gothic, a distinct and separate style, till superseded by the all-pervading Gothic from the north of France.

As will be observed on the map, the line dividing these two provinces includes both banks of the Loire as high as Tours, dividing Brittany into two equal halves. It then follows the course of the Cher to the northern point of Auvergne, leaving Bourges and Bourbon to the north; thence by a not very direct line it passes east, till it reaches the Rhone at Lyons. It follows that stream to the Lake of Geneva, and leaves the whole valley of the Saône to the Burgundians; thus dividing France into two nearly equal and well-defined ethnographic and architectural provinces.

As it is necessary to distinguish the styles of these provinces by names, I should propose to call that of the southern the Romance,[1] and that of the northern Frankish.

Turning first then to the south, it is necessary to subdivide that province into at least 4, or perhaps more correctly 6 subdivisions. The first of these is Provence, and the style the Provençal, a name frequently used by French archæologists, and familiar to them. It occupies the whole valley of the Rhone as far as Lyons, and along the coast between the hills and the sea to the Pyrenees. Within these limits there is not, so far as I know, a single church or building that can lay a fair claim to the title of Gothic. All are Romanesque, or, more properly, Romance, the earliest examples with a native element timidly peering through, which afterwards displays itself more boldly. What instances there are of late Gothic are so bad and so evidently importations as to deserve no mention.

The next province may be called the Aquitanian, comprising the

[1] The use of this term is a little awkward at first from its having another meaning in English; it has, however, been long used by English etymologists to distinguish the Romance languages, such as Italian, Spanish, and French, from those of Teutonic origin, and is here used in precisely the same sense as applied to architecture—to those styles derived from the Roman, but one degree more removed from it than the Romanesque.

whole of the valley of the Garonne and its tributaries—all that country in fact where the names of towns end in the Basque article *ac*. Its style is not nearly so closely allied to the Romanesque as that of Provence; and though tending towards a Gothic feeling, is always so mixed with the native element as to prevent that style from ever prevailing, till forcibly introduced by the Franks in the 12th and 13th centuries.

The third is designated that of Anjou, or the Angiovine, from its most distinguished province. This includes the lower part of the Loire, and is bounded on the north-east by the Cher. Between it and the sea is a strip of land, including the Angoumois, Saintonge, and Vendée, which it is not easy to know where to place. It may belong, so far as we yet know, to either Aquitania or Anjou, or possibly may deserve a separate title altogether; but in the map it is annexed for the present to Poitou or the Angiovine province.

In Brittany the two styles meet, and are so mixed together that it is impossible to separate them. There it is neither pure Romance nor pure Frankish, but a style partaking of the peculiarities of each without belonging to either.

Besides these, there is the small and secluded province of Auvergne, having a style peculiarly its own, which, though certainly belonging to the southern province, is easily distinguished from any of the neighbouring styles, and is one of the most pleasing to be found of an early age in France.

Taking then a more general view of the Southern province, it will be seen that if a line were drawn from Marseilles to Brest, it would pass nearly through the middle of it. At the south-eastern extremity of such a line we should find a style almost purely Romanesque, passing by slow and equal gradations into a Gothic style at its other extremity.

On turning to the Frankish province the case is somewhat different. Paris is here the centre, from which everything radiates; and though the Norman invasion, and other troubles of those times, with the rebuilding mania of the 13th century, have swept away nearly all traces of the early buildings, still it is easy to see how the Gothic style arose in the Isle of France, and thence spread to all the neighbouring provinces.

Not to multiply divisions, we may include in the Northern province many varieties that will afterwards be marked as distinct in maps of French architecture, especially at the south-east, where the Nivernois and Bourbonnois, if not deserving of separate honours, at least consist of such a complete mixture of the Frankish, the Burgundian, with the Southern styles, that they cannot strictly be said to belong to any one, and yet partake of all. The Northern, however, is certainly the predominant element, and with that therefore they should be classed.

Beyond this to the eastward lies the great Burgundian province, having a well-defined and well-marked style of its own, influenced by or influencing all those around it, but possessing more similarity to the German styles than to those of France, though the Roman influ-

ence is here strong enough to give it an apparent affinity with the Provençal. This is, however, an affinity of form, and not of spirit; for no style is much more essentially Gothic than that of Burgundy.

To the westward lies the architectural province of Normandy, one of the most vigorous offshoots of the Frankish style; and from the power of the Norman dukes in the 11th and 12th centuries, and the accidental circumstance of its prosperity in those centuries when the rest of France was prostrate from their ravages and torn by internal dissensions, the Round Gothic style shows itself here with a vigour and completeness not found elsewhere. It is, however, evidently only the Frankish style based remotely on Roman tradition, but which the Barbarians used with a freedom and boldness which soon converted it into a purely national Gothic art. This soon ripened into the complete Gothic style of the 13th century, which was so admired as soon to spread itself over the whole face of Europe, and which became the type of all Gothic architecture.

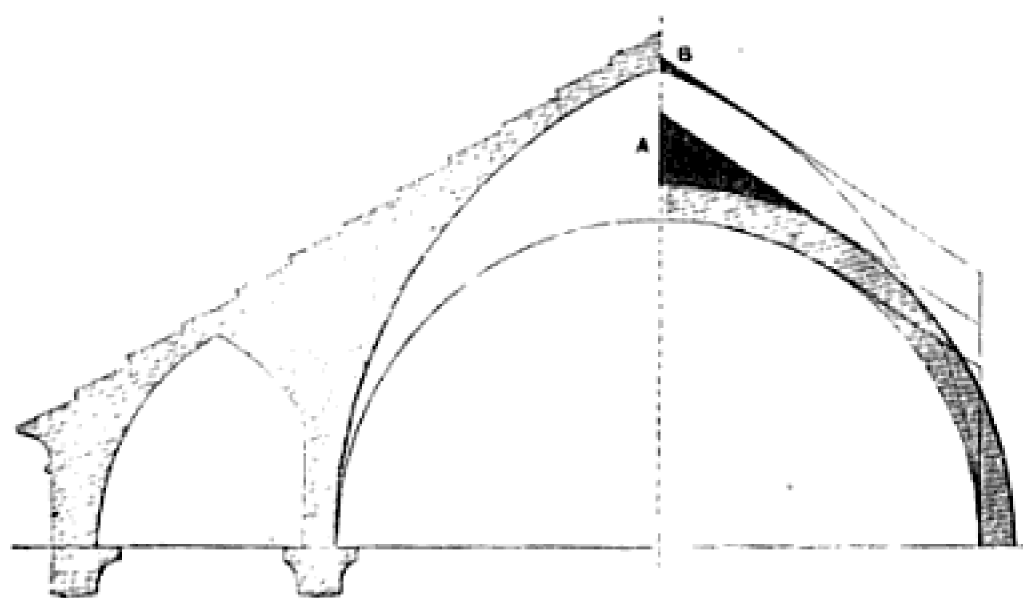
Alsace is not included in this enumeration, as it certainly belongs wholly to Germany. Lorraine too is more German than French, and if included at all, must be as an exceptional transitional province. French Flanders belongs, in the age of which we are now speaking, to the Belgian provinces behind it, and may therefore also be disregarded at present; but even after rejecting all these, enough is still left to render it difficult to remember and follow all the changes in style introduced by these different races, and which marked not only the artistic but the political state of France during the middle ages, when the six territorial peers of France, the Counts of Toulouse, Flanders, Aquitania, Normandy, Burgundy, and Champagne, represented the six principal provinces of the kingdom, under their suzerain, the Count or King of Paris. These very divisions might now be taken to represent the architectural distinctions, were it not that the pre-eminence of these great princes belongs to a later epoch than the architectural divisions which we have pointed out, and which we must now describe somewhat more at length.

Provence.

There are few chapters in the history of mediæval architecture which it would be more desirable to have fully and carefully written than that of the style of Provence from the retirement of the Romans to the accession of the Franks. This country, from various causes, retained more of its former civilisation through the dark ages than any other, at least on this side of the Alps. Such a history, however, is to be desired more in an archæological than in an architectural point of view, for the Provençal churches, compared with the true Gothic, though numerous and elegant, are small, and most of them have undergone such alterations as to prevent us from judging correctly of their original effect. Still their importance to the history of art can hardly be over-estimated, more especially towards the determination of the much-mooted question of the history of the pointed arch, which has hitherto been the great difficulty in the way of the correct deter-

mination of the age of these churches. It is a curious fact that all the churches of Provence, from the age of Charlemagne to that of St. Louis, were vaulted, and have their vaults constructed on the principle of the pointed arch. Now it has long been a received dogma with the antiquaries of France as well as those of England, that the pointed arch was first introduced in the 12th century—the first example being assumed to be the work of Abbot Suger at St. Denis (1144-1152). It follows that all who have written on the subject of Provençal architecture have felt themselves forced to bring down the age of the churches in question, or at least of their roofs, below this period.

The history of the pointed arch has already been sketched above (p. 379 *et seqq.*), and need not be repeated here. It is now perfectly well known that it was currently used in the East from at least the time of Constantine.[1] We need not therefore feel surprised that a people trading with the Levant from their great port of Marseilles should have thence borrowed this feature; or perhaps we might rather say, that a people descended from a colony of Pelasgic Greeks should revive an old and time-honoured form when they found it particularly suited to their constructive purposes. So remarkably suitable indeed was it that we should not wonder even if they had actually invented it *de novo*, and it is not without regret that we perceive it abandoned or perverted. This use of the pointed arch will be evident from the annexed diagram, which is a section of the roof of one of the churches at Vaison. The object evidently was to lay the roof or roofing tiles directly on the vault, as the Romans had done on their domes, and also,



472. Diagram of Vaulting. South of France.

so far as we know, on their thermæ. Had they used a circular vault for this purpose, it is evident, from the right-hand side of the diagram, that to obtain the straight-lined roof externally, and the watershed, it would have been requisite to load the centre of the vault to a most dangerous extent, as at A; whereas with the pointed arch it only

[1] For the detail of the argument I must refer the reader to a paper read by me to the Institute of British Architects on June 18th, 1849, and published in the 'Builder,' and other papers of the time. See also a paper read in the same place in the following month (July, 1849), by Sir Gardner Wilkinson.

required the small amount of filling up shown at B, and even that might have been avoided by a little contrivance if thought necessary. By adopting the pointed form the weights are so distributed as to ensure stability and to render the vault self-supporting. It has already been observed that the Gothic architects everywhere treated these vaults as mere false ceilings, covering them with a roof of wood—an expedient highly objectionable in itself, and the cause of the destruction, by fire or from neglect, of almost all the churches we now find in ruins all over Europe; whereas, had they adhered either to the Roman or Romance style of roofing, it would not have required the constant upholding hand of man to protect the buildings from decay.

The one obstacle in the way of the general adoption of this mode of roofing was the difficulty of applying it to intersecting vaults. The Romans, it is true, had conquered the difficulty; so had the Byzantine architects, as we shall hereafter see, displaying the ends of the vaults as ornaments; and even at St. Mark's, Venice, this system is adopted, and with the additional advantage of the pointed roof might have been carried further. Still it must be confessed that it was not easy—that it required more skill in construction and a better class of masonry than was then available to do this efficiently and well. The consequence is, that all the Romance pointed vaults are simple tunnel-vaults without intersections, and that the Gothic architects, when they adopted the form, slurred over the difficulty by hiding the upper sides of their vaults beneath a temporary wooden roof, which protected them from the injuries of the weather. This certainly was one of the greatest mistakes they made: had they carefully profiled and ornamented the exterior of the stone roofs in the same manner as they ornamented the inside, their buildings would have been not only much more beautiful, but much more permanent, and the style would have been saved from the principal falsity that now deforms it. Even as it is, if we wished intelligently to adapt the Gothic to our purposes, instead of merely copying it, this is one of the points to which we ought first to turn our attention.

Another circumstance which may be alluded to here, when speaking on this subject, which led to the adoption of the pointed arch at an early age in the southern provinces of France, was the use of domes as a roofing expedient. These, it is true, are not found in Provence, but they are common in Aquitaine and Anjou—some of them certainly of the 11th century; and there can be little doubt but that these are not the earliest, though their predecessors have perished or not yet been brought to light.

It has already been explained (p. 381) how difficult it is to introduce pendentives between two circular arches, and how naturally and easily they fit between two of a pointed form. At St. Front, Perigeux, at Moissac, and at Loches we find the pointed arch, introduced evidently for this purpose, and forming a class of roofs more like those of mosques in Cairo than any other building in Europe. It is true they now look bare and formal—their decorations having been originally painted on stucco, which has peeled off; but still the variety of

form and perspective they afford internally, and the character and truthfulness they give to the roof as seen from without, are such advantages that we cannot but regret that these two expedients of stone external roofs and domes were not adopted in Gothic. Had the great architects of that style in the 13th century carried out these with their characteristic zeal and earnestness, they would have left us a style in every respect infinitely more perfect and more beautiful than the one that has come down to us, and which we are copying so servilely, instead of trying, with our knowledge and means of construction, to repair the errors and omissions of our forefathers, and out of the inheritance they have left us to work out something more beautiful and more worthy of our greater refinement and advanced civilisation.

As enthusiastic admirers of the architecture of the Greeks, we might at least, we should think, have taken a hint from them: they could not vault, and consequently were obliged to construct their roofs with wood; but they covered their temple-roofs externally with tiles of stone and marble, making them to appearance as solid, and certainly quite as ornamental as the walls. In this, as in most things, their practice was diametrically opposed to that of the mediæval architects. The internal roof of the latter was of stone, the outer one of wood: the Greeks, on the other hand, put the wood internally, the stone on the exterior. The happy medium seems to be that which the Romance architects aimed at—a complete homogeneous roof, made of the most durable materials and ornamented, both externally and internally, and there can be little doubt but that this is the only legitimate and really artistic mode of effecting this purpose, and the one to which attention should now be turned.[1]

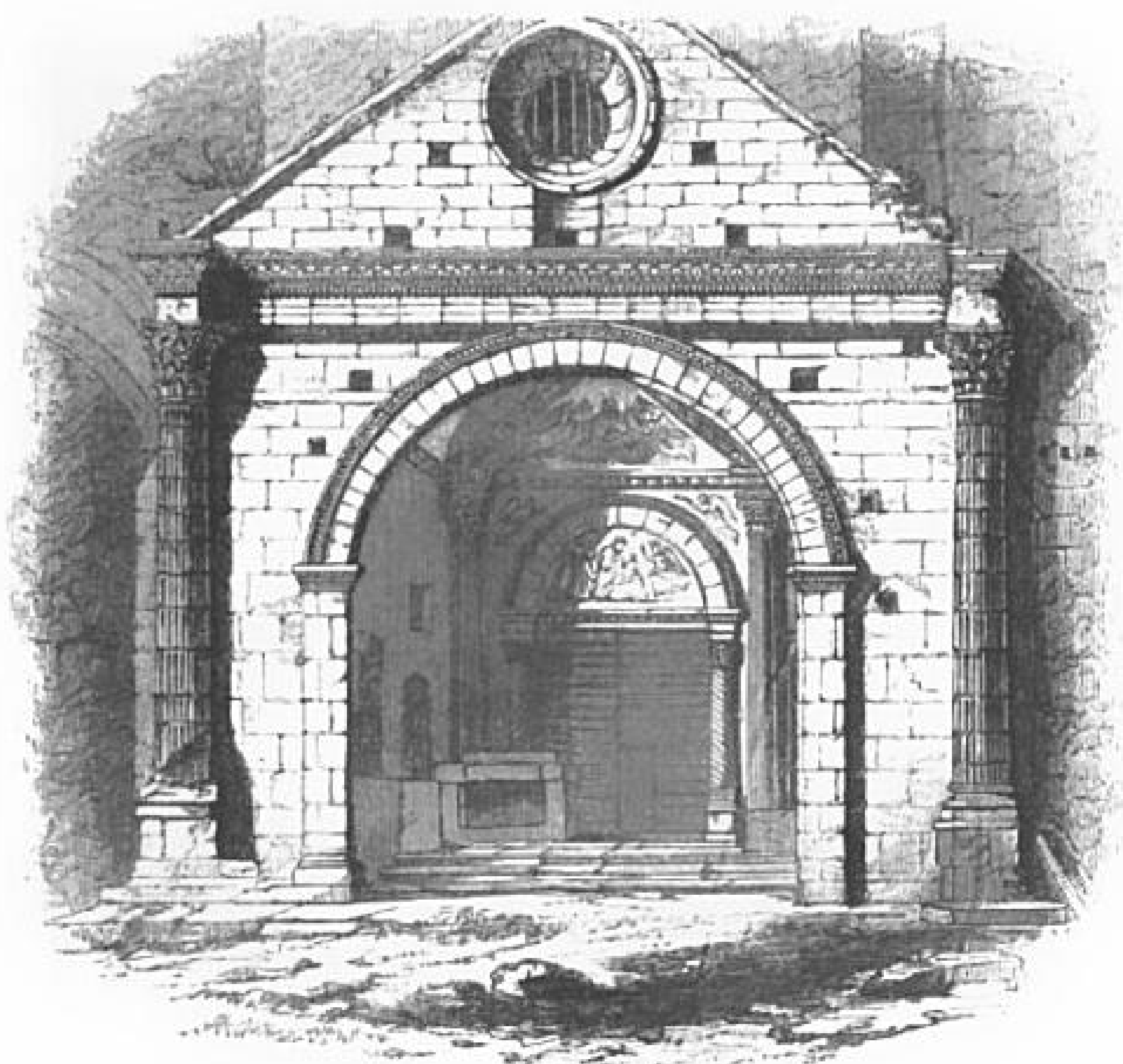
Among the Provençal churches, one of the most remarkable is Notre Dame de Doms, the cathedral at Avignon. Like all the others, its dimensions are small as compared with those in the northern province, as it is only 200 ft. in length, and the nave about 30 ft. in width. The side aisles have been so altered and rebuilt, that it is difficult to say what their plan and dimensions were.

The most remarkable feature and the least altered is the porch, which is so purely Romanesque that it might almost be said to be copied from such a building as the arches on the bridge of Chamas (woodcut No. 276). It presents, however, all that attenuation of the horizontal features which is so characteristic of the Lower Empire, and cannot rank higher than the Carlovingian era; nor, indeed, can it be brought lower, being too purely classical for any of the styles after that date. The same ornaments are found in the interior, and being integral parts of the ornamentation of the pointed roof, have led to various theories to account for this copying of classical details at a later period. It has been sufficiently explained above, how early the pointed arch was introduced as a vaulting expedient in this quarter;

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[1] The Scotch and Irish Celts seem to have had a conception of this truth, and in both these countries we find some bold attempts at true stone roofs: the influence, however, of the Gothic races overpowered them, and the mixed roof became universal.

and that difficulty being removed, we may safely ascribe the whole of the essential parts of this church to the age of Charlemagne.

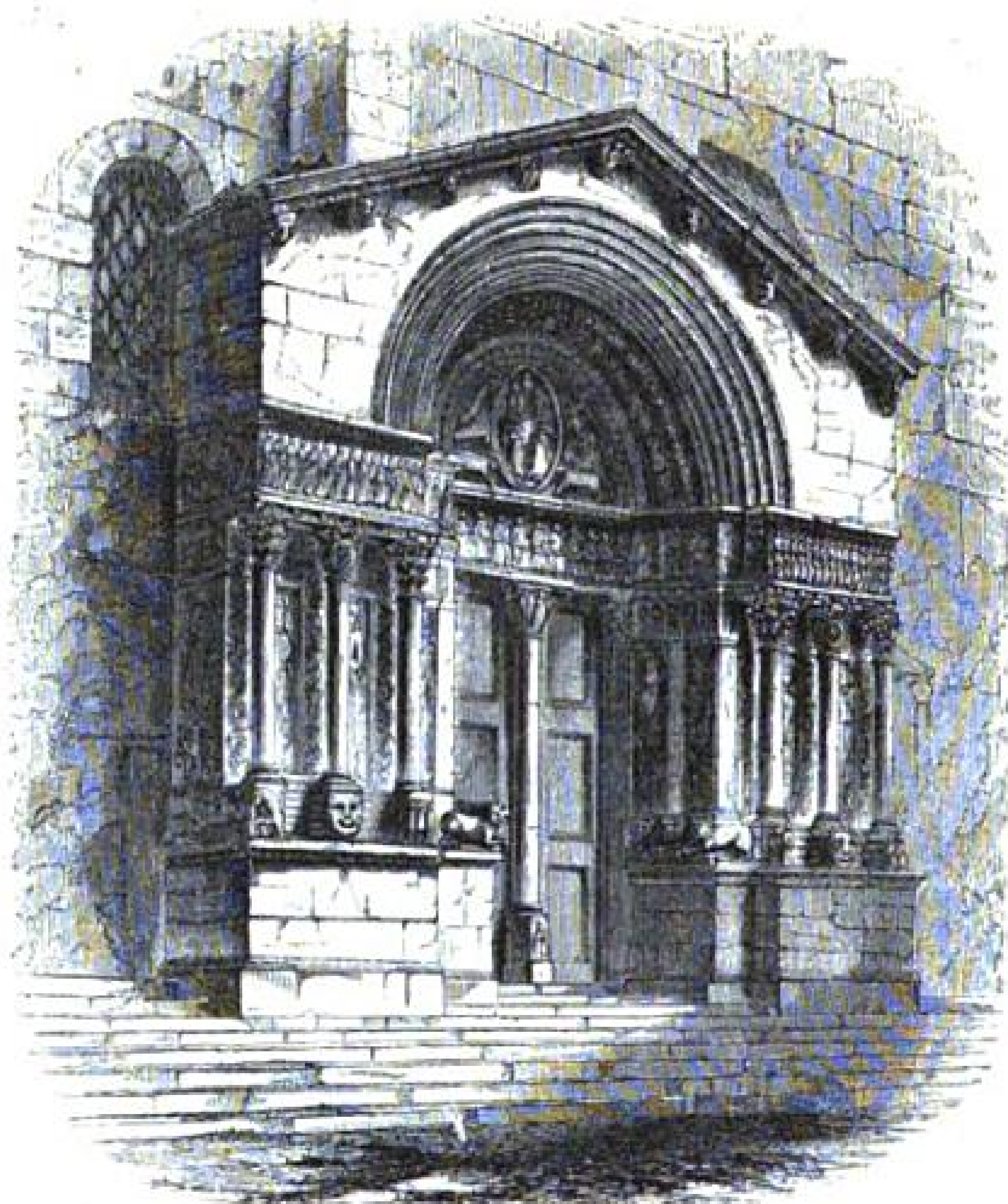


473. Porch of Notre Dame de Doms, Avignon. From Laborde's Monumens de la France.

Next perhaps in importance to this, is the church of St. Trophime at Arles, the nave of which, with its pointed vault, probably belongs to the same age, though its porch (woodcut No. 474), instead of being the earliest part, as in the last instance, is here the most modern, having been erected in the 11th century, when the church to which it is attached acquired additional celebrity by the translation of the body of St. Trophime to a final resting place within its walls. As it is, it forms a curious and interesting pendant to the one last quoted, showing how in the course of 4 centuries the style had passed from debased Roman to a purely native form, still retaining a strong tradition of its origin, but so used and so ornamented, that were we not able to trace back the steps one by one, by which the porch at Avignon led to that of Arles, we might almost be inclined to doubt the succession.

The porches at Aix, Cuxa, Coustonges, Prades, Valcabre, Tarascon, and elsewhere in this province, form a series of singular interest, and of great beauty of detail mixed with all the rich exuberance of our own Norman doorways, and follow one another by such easy gradations, that the relative age of each may easily be determined.

The culminating example is that at St. Gilles, near the mouths of the Rhone, which is by far the most elaborate church of its class, but



474. Porch of St. Trophime, Arles. From Chapuy, Moyen Age Monumental.

so classical in many of its details, that it probably is somewhat earlier than this one at Arles, which it resembles in many respects, though far exceeding it in magnificence. It consists of three such porches placed side by side, and connected together by colonnades—if they may be so called—and sculpture of the richest class, forming altogether a frontal decoration unsurpassed, except in the northern churches of the 13th century. Such porches, however, as those of Rheims, Amiens, and Chartres, surpass even these in elaborate richness and in dimensions, though it may be questioned if they are really more beautiful in design.

There is another church of the Carlovingian era at Orange, and one at Nismes, probably belonging to the 9th century; both however very much injured by alterations and repairs. In the now deserted city of Vaison there are two churches, so classical in their style, that we are not surprised at M. Laborde, and the French antiquaries in general, classing them as remains of the classical period. In any other country on this side of the Alps such an inference would be inevitable; but here another code of criticism must be applied to them. The oldest, the chapel of St. Quinide, belongs probably to the 9th or 10th century. It is small, but singularly elegant and classical in the

style of its architecture. The apse is the most singular as well as the most ancient part of the church, and is formed in a manner of which no other example is found anywhere else, so far as I know. Externally it is two sides of a square, internally a semicircle; at each angle of the exterior and in each face is a pilaster, fairly imitated from the Corinthian order, and supporting an entablature that might very well mislead a Northern antiquary into the error of supposing it was a Pagan temple.

The cathedral, though larger, is more Gothic both in plan and detail, though not without some classical features, and entirely free from the bold rudeness of style we are so accustomed to associate with the architecture of the 11th century, to which it belongs. Its system of vaulting has already been explained (woodcut No. 472), but neither of these buildings have yet met with the attention they so richly merit from those who are desirous of tracing the progress of art from the decline of the pure Roman to the rise of the true Gothic styles.



475. Apse of Church at Alet. From Taylor and Nodier, Voyages dans l'Ancienne France.

Taking it altogether, perhaps the most elegant specimen of the style is the ruined—now, I fear, nearly destroyed—church of Alet, which, though belonging to the 11th century, was singularly classical in its details, and wonderfully elegant in every part of its design. Of this the apse, as having undergone no subsequent transformation, was by far the most interesting, though not the most beautiful por-

tion. The upper part was adorned with dwarf Corinthian pilasters, surmounted by a cornice that would not discredit the buildings of Diocletian at Spalatro; the lower part by forms of more Mediæval character, but scarcely less elegance. In the interior, the triumphal arch, as it would be called in a Roman basilica, is adorned by two Corinthian pillars, designed with the bold freedom of the age, though retaining the classical forms in a most unexpected degree.

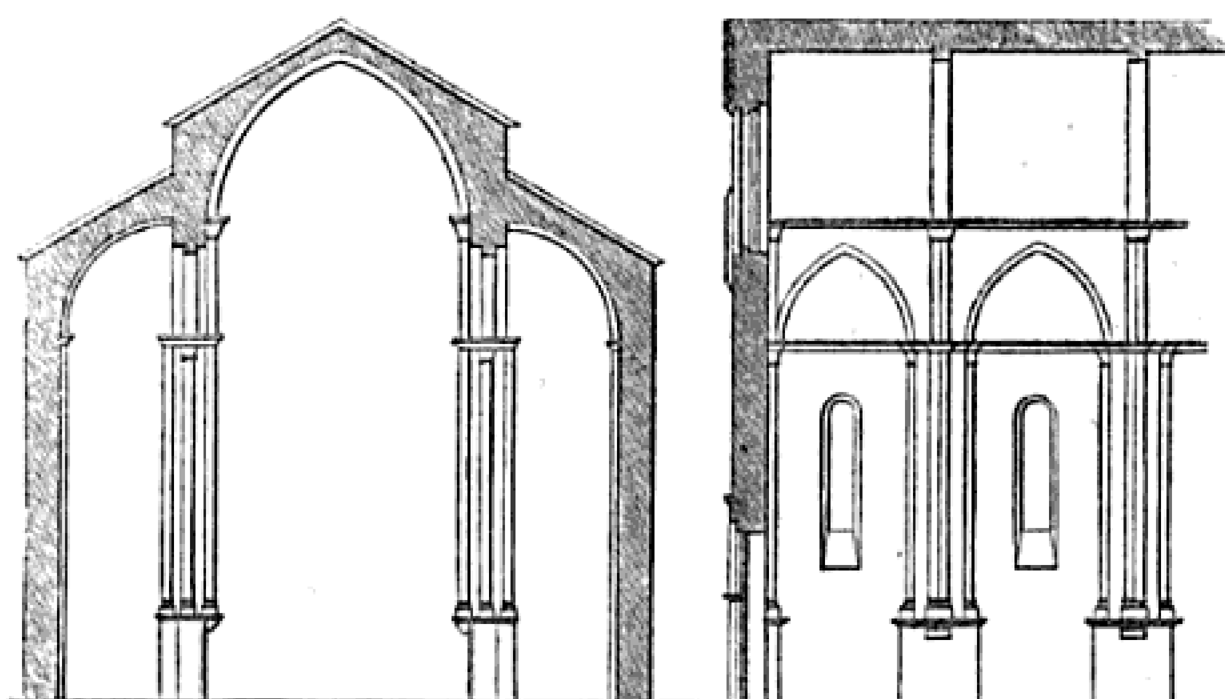


476. Internal Angle of Apse at Alet. From Taylor and Nodier.

The rest of the church is as elegant as these parts, though far less classical, the necessities of vaulting and construction requiring a different mode of treatment, and the age permitting a departure from conventional forms, of which in the apse the architect does not seem to have considered himself at liberty to make use.

In strange contrast to this is the bold, rude, and gloomy church of Carcassonne, erected by men who seem to have had far more sympathy with the embattled towers that surround it than with the elegance of cloistered retirement which seems to have presided over the other. Though both of the same age, nothing can well be more different than these two churches, the one being as Gothic as the other is classical. But even the church at Carcassonne is not devoid of classical reminiscences in the Corinthian character of its pilasters and their capitals, though these harmonise but ill with the massive piers to which they are attached, and the gloomy pointed vault supported by them.

The church at Fontifroide, near Narbonne, shows the style in its completeness, perhaps better than any other example. There not only the roof is pointed, but all the constructive openings have assumed the same forms. The windows and doorways, it is true, still retain their circular heads, and did retain them as long as the native style flourished, the pointed-headed opening being only introduced by the Franks under Simon de Montfort.



477. Longitudinal and Cross Section of Fontifroide Church. From Taylor and Nodier.

The section across the nave shows the form of the central vault, which the other section shows to be a plain tunnel-vault unbroken by any intersection throughout the whole length of the nave. The side aisles are roofed with half vaults, forming abutments to the central arches—the advantage of this construction being, as before explained, that the tiles or paving-stones of the roof rest directly on the vault without the intervention of any carpentry. Internally also the building displays an elegant simplicity and constructive propriety. Its chief defect is the darkness of the vault from the absence of a clerestory, which, though tolerable in the bright sunshine of the South, could not be borne in the more gloomy North. It was to correct this, as we shall afterwards perceive, that in the North the roof of the aisles was first raised to the height of that of the central nave, light being admitted through a gallery. Next the upper roof of the aisles was cut away, with the exception of mere strips or ribs left as flying buttresses. Lastly, the central vault was cut up by intersections, so as to obtain space for windows to the very height of the ridge. It was this last expedient that necessitated the adoption of the pointed-headed window; which might never have been introduced but for the invention of painted glass, which, requiring larger openings, compelled the architects to bring these windows close up to the lines of the constructive vaulting, and so follow its forms. In the South, however, painted glass never was, at least in the age of which we are now speaking, a favourite mode of decoration, and the windows remained so small as never to approach or interfere in any way with the lines of the vault, and they therefore retained their national and more beautiful circular-headed termination. The arrangements for lighting are, however, undoubtedly the most defective part of the arrangements of the Provençal churches, and have given rise to its being called a "cavern-like Gothic,"[1] from the gloom of their interiors as compared with the glass walls of their Northern rivals. Still it by no means

[1] Wood's Letters of an Architect, vol. i. p. 163.

follows that this was an inherent characteristic of the style, which could not have been remedied by further experience; but it is probable that no ingenuity would ever have enabled this style to display these enormous surfaces of painted glass, whose introduction was, if not the only, at least the principal motive of all those changes which took place in the Frankish provinces.

It would be tedious to attempt to describe the numerous churches of the 11th and 12th centuries which are found in every considerable town in this province: some of them, however, such as Elne, St. Guillem le Désert, St. Martin de Landres, Vignogoul, Valmagne, Lodève, &c., deserve particular attention, as exemplifying this style, not only in its earlier forms, but after it had passed into a pointed style, though differing very considerably from that of the North. Among these there is no church more interesting than the old fortalice-like church of Maguelone, which, from its exposed situation, open to the attacks of Saracenic corsairs as well as Christian robbers, looks more like a baronial castle than a peaceful church. One of its doorways shows a curious admixture of classical, Saracenic, and Gothic taste, which only could be found here; and as it bears a date (1178), it marks an epoch in the style to which it belongs.



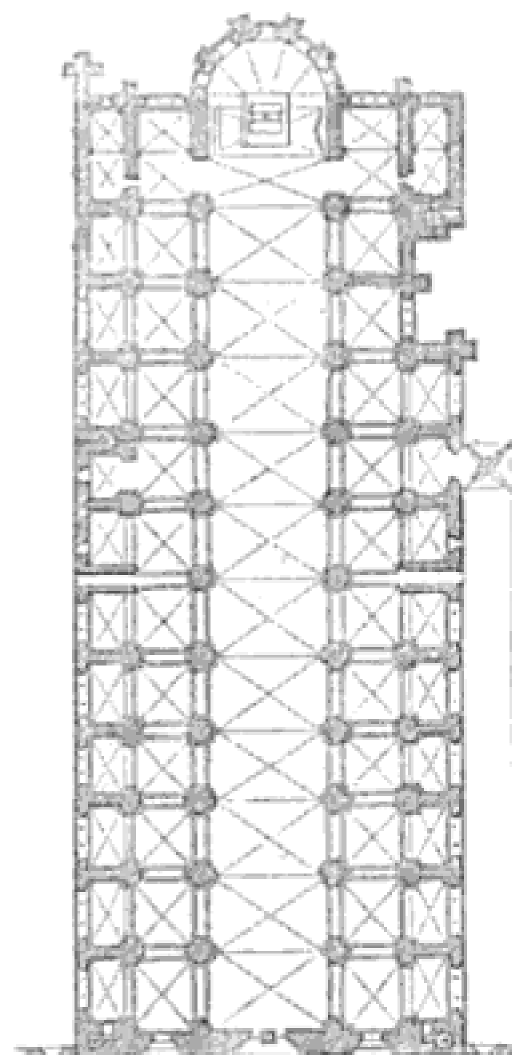
478. Doorway in Church at Maguelone. From Renouvier, Monumens de Bas Languedoc.

Had it been completed, the church of St. Gilles would perhaps have been the most splendid of the province. Its portal has already been spoken of, and is certainly without a rival; and the lower church, which belongs to the 11th century, is worthy of its magnificence. It was, however, either never finished, or was subsequently ruined along with the upper church, which was commenced in the year 1116 by Raymond IV., Count of St. Gilles. This too was probably never completed, or if it was, it was ruined in the wars with the Huguenots. Even in its present state, and though wanting the richness of the earlier examples, it perhaps surpasses them all in the excellence of its masonry, and the architectural propriety of all its parts.

Besides these, there is an important church at Valence of the 11th century, which seems to be an almost expiring effort of the "cavern-like" style. In other respects it resembles the Northern styles so much as almost to remove it from the Provençal class. This is even more true of the cathedral at Vienne, which is nevertheless the largest and finest

of the churches of Provence, but which approaches, both in style and locality, very closely to the Burgundian churches.

Its plan is extremely simple, having no transept and no aisle trending round the apse, as most of the Northern churches have. It consists of 3 aisles, the central one 35 ft. wide between the piers, the others 14 ft. The buttresses are internal, as was usual in the South, forming chapels, and making up the whole interior width to 113 ft. by a length internally of 313, so that it covers somewhere about 35,000 ft. This is only half the dimensions of some of the great Northern cathedrals, but the absence of transepts, and its generally judicious proportions, make this church look much larger than it really is.



479. Cathedral, Vienne. From Wiebeking. Scale 100 ft. to 1 in.

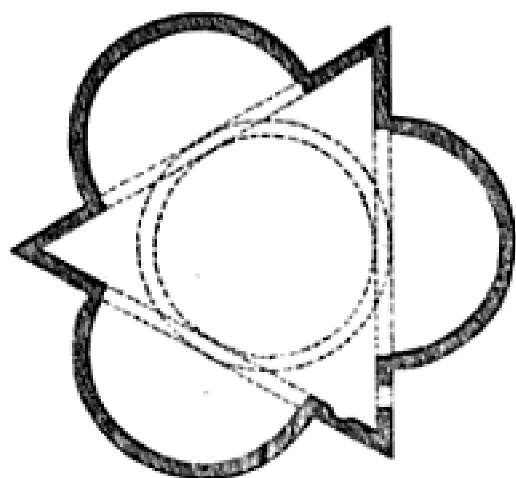
The west front and the 3 western bays are of the 16th century; the next 7 are of an early style of pointed architecture, with semi-Roman pilasters, which will be described in speaking of Burgundian architecture, and which belong probably to the 11th or beginning of the 12th century. The apse is ascribed to the year 952, but there are no drawings on which dependence can be placed sufficient to determine the date.

Besides this, there is another church, St. André le Bas at Vienne, belonging to the 11th century, whose tower is one of the most pleasing instances of this kind of composition in the province, and though evidently a lineal descendant of the Roman and Italian campaniles, displays an amount of design seldom met with beyond the Alps.

Circular Churches.

The round shape seems never to have been a favourite for sacred buildings in Provence, and consequently was never worked into the apses of the churches, nor became an important adjunct to them. One of the few examples found is a small baptistery attached to the cathedral at Aix, either very ancient or built with ancient materials, and now painfully modernised. At Riez there is a circular detached baptistery, usually, like the churches at Vaison, called a pagan temple, but evidently of Christian origin, though the pillars in the interior seem undoubtedly to have been borrowed from some more ancient and classical edifice. But the finest of its class is the church at Rieux, probably of the 11th century. Internally the vault is supported by 4 piers and 3 pillars, producing an irregularity far from pleasing, and without any apparent motive.

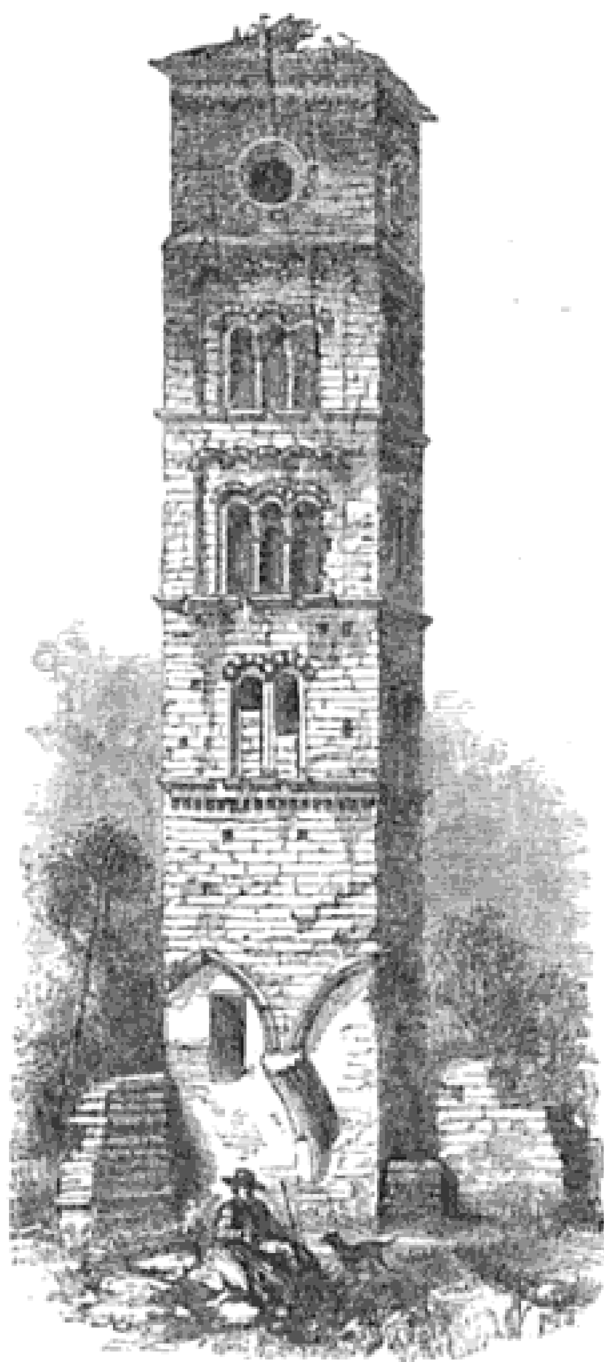
At Planes is another church whose plan deserves to be quoted, if not for its merit, at least for its singularity: it is a triangle with an apse attached to each side, and supporting a circular part terminating in a plain roof. As a constructive puzzle it is curious, but it is doubtful how far any legitimate use could be made of such a *capriccio*.



480. Plan of Church at Planès. From Taylor and Nodier.

There is, so far as I know, only one triapsal church, that of St. Croix at Mont Majour near Arles. Built as a sepulchral chapel, it is a singularly gloomy but appropriate erection; but it is too tall and too bare to rank high as a building even for such a purpose.

Provence is far from being rich in towers, which never seem there to have been favourite forms of architectural display. That of St. André le Bas at Vienne has already been spoken of, but this at Puissalicon (woodcut No. 481) near Béziers is even more typical of the style, and standing as it now does in solitary grandeur among the ruins of the church once attached to it, has a dignity seldom possessed by such monuments. In style it resembles the towers of Italy more than any found farther North, but is not without peculiarities that point to a different mode of elaborating this peculiar feature from anything found elsewhere. As a design its principal defect seems to be a want of lightness in the upper story. The single circular opening there is a mistake in a building gradually growing lighter towards its summit.



481. Tower at Puissalicon. From Renouvier.

These towers were never, or at least very seldom, attached symmetrically to the churches. When height was made an object, it was more frequently attained by carrying up the dome at the intersection of the choir with the nave. At Arles this is done by a heavy square tower, gradually diminishing, but still massive to the top; but in most instances the square becomes an octagon, and this again passes into a circle, which terminates the composition. One of the best specimens of this class of domes, if they may be so called, is the church

of Cruas (woodcut No. 482), where these parts are pleasingly subordinated, and form, with the apses on which they rest, a very beautiful composition. The defect is the tiled roofs or offsets at the junction of the various stories, which give an appearance of weakness, as if the upper parts could slide, like the joints of a telescope, one into the other.



482. Church at Cruas. From Taylor and Nodier.

This could easily be avoided, and probably was so in the original design. If this were done, we have here the principle of a more pleasing crowning member at an intersection than was afterwards used in pointed architecture, and capable of being applied to domes of any extent.

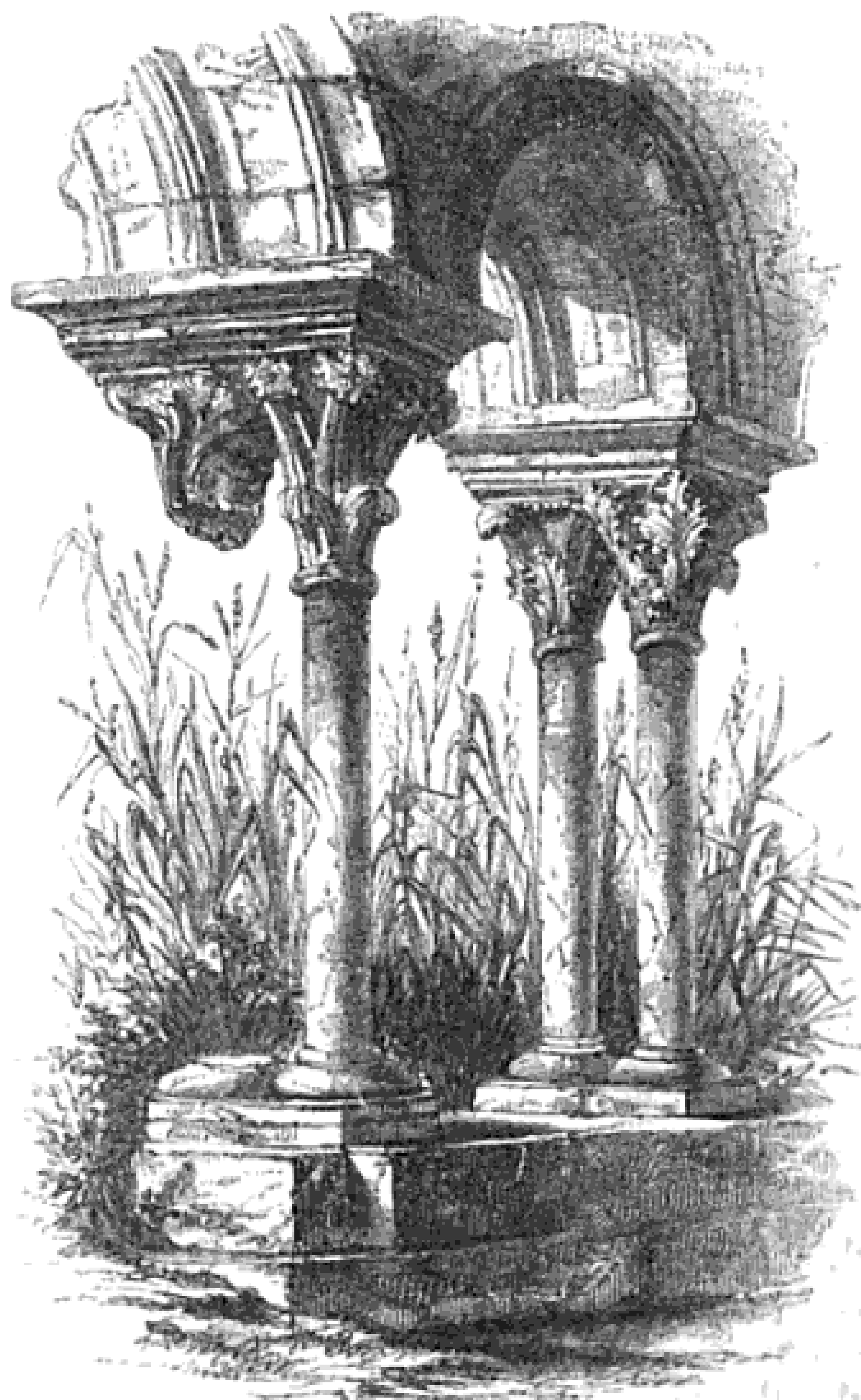
CLOISTERS.

Nearly all, and certainly all the more important churches of which we have been speaking, were collegiate, and with such the cloister was as important a part of the establishment as the church itself, and frequently the more beautiful object of the two. In our own cold wet climate the cloisters lose much of their appropriateness; still they always are used, and always with a pleasing effect; but in the warm sunny South their charm is increased tenfold. The artists seem to have felt this, and to have devoted a large share of their attention to these objects—creating in fact a new style of architecture for this special purpose.

With us the arcades of a cloister are generally, if not always, a range of unglazed windows, presenting the same features as those of the church, which, though beautiful when filled with glass, are somewhat out of place without that indispensable adjunct. In the South

the cloister is never a window, or anything in the least approaching to it in design, but a range of small and elegant pillars, sometimes single, sometimes coupled, generally alternately so, and supporting arches of light and elegant design, all the features being of a character suited to the place where they are used, and to that only.

The cloister at Arles has long occupied the attention of travellers and artists, and perhaps no building, or part of one, in this style has been so often drawn or so much admired. Two sides of it are of the same age and in the same style as the porch (woodcut No. 474), and



483. Cloister at Fontifroide. From Taylor and Nodier.

equally beautiful. The other two are somewhat later, the columns supporting pointed instead of round arches. At Aix there is another, similar to this, and fragments of such colonnades are found in many places. That of Fontifroide (woodcut No. 483) is one of the most complete and perfect after that at Arles, and some of its capitals are treated with a freedom and boldness, and at the same time with an elegance, not often rivalled anywhere. They even excel—for the purpose at least—the German capitals of the same age. Those at Elne

are more curious than of any other cloister in France, so far as I know —some of them showing so distinct an imitation of Egyptian work as instantly to strike any one at all familiar with that style. Yet they are treated with a lightness and freedom so wholly mediæval as to show that it is possible to copy the spirit without a servile adherence to the form. Here, as in all the examples, every capital is different—the artists revelling in freedom from restraint, and sparing neither time nor pains. We find in these examples a delicacy of handling and refinement of feeling far more characteristic of the South than of the ruder North, and must admit that their architects have in these cloisters produced objects with which we have nothing of the kind in England to compete.



484.



485.

Capitals at Cloister, Elne. From Taylor and Nodier.

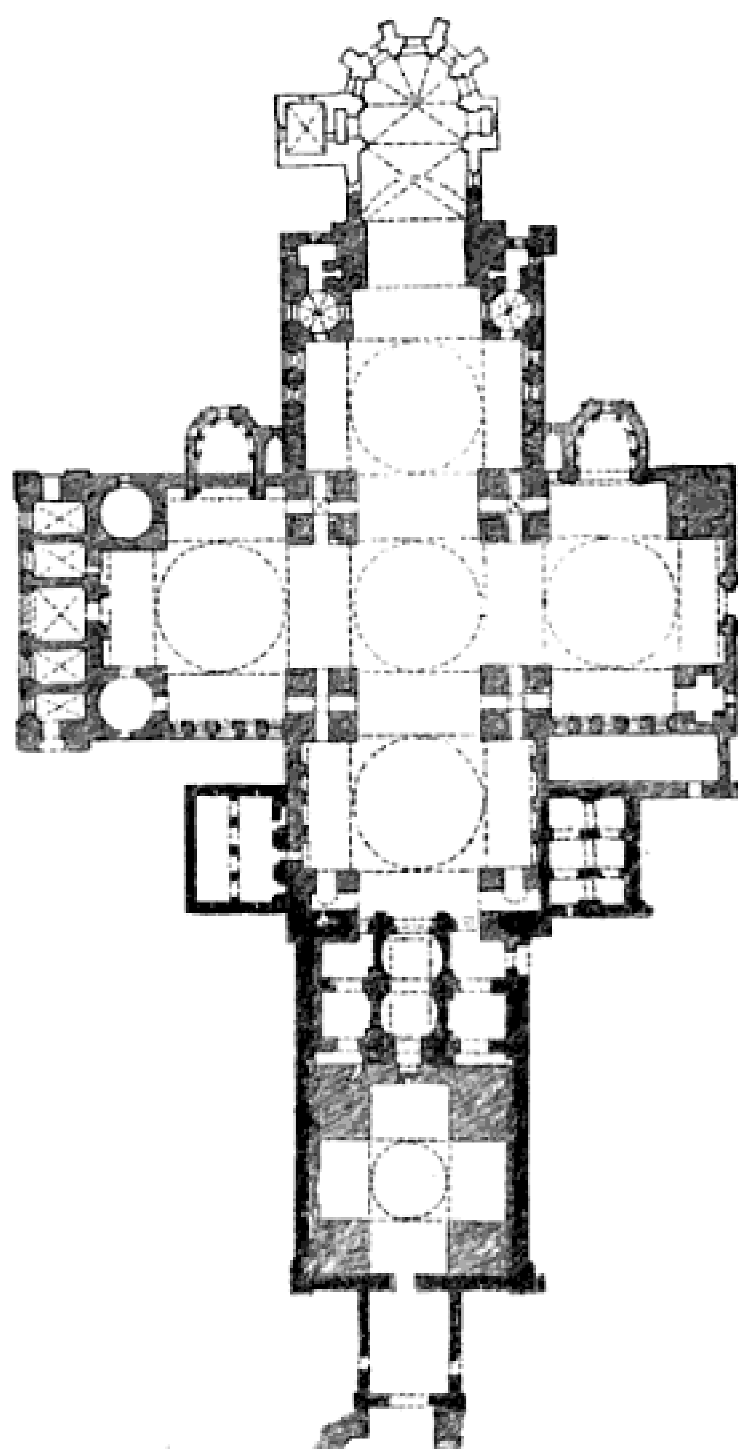
CHAPTER II.

AQUITANIA.

CONTENTS.

Churches at Perigeux, Souillac, Angoulême, Alby, Toulouse, Conques, Tours. — Tombs.

The moment you pass the hills forming the water-shed between the rivers flowing to the Mediterranean and those which debouch into the Bay of Biscay, you become aware of having left the style we have just been describing, to enter upon a new architectural province. This province possesses two distinct and separate styles, very unlike one another both in character and detail. The first of these is a round-arched tunnel-vaulted Gothic style, more remarkable for the grandeur of its conceptions than for the success with which those conceptions are carried out, or for beauty of detail. The second is a pointed arched, dome-roofed style peculiar to the province, and indicating the presence of an Eastern people, who, if this be the case, can be no other than the Basques. They certainly formerly did, and now do, inhabit a portion at least of the province, and have left their article *ac* affixed to the names of all the towns of importance where this style is found existing. Indeed, on the map, the prevalence of this termination exactly marks the limits and extent of the style. Domes are found, no doubt, farther north, but of a modified form. They are, however, sufficient to induce us to include

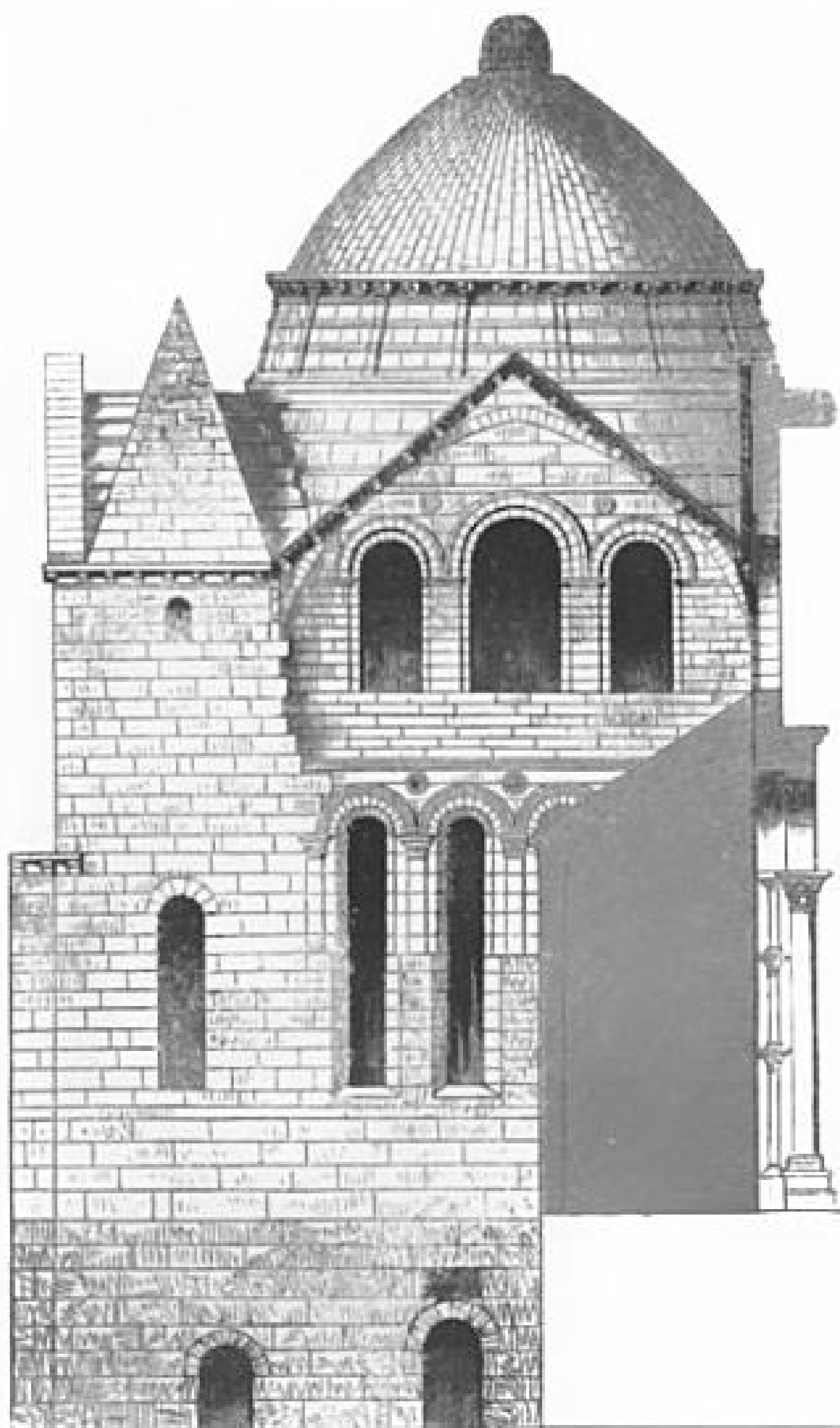


486. Plan of St. Front, Perigeux. From F. de Verneilh, Architecture Byzantine en France. Scale 100 ft. to 1 in.

for the present in the province of Aquitaine the doubtful districts of the Angoumois and Vendée, though it is possible that they may eventually turn out to belong more properly to Anjou.

In describing them, it may be convenient to take the domical style first, as its history—with one or two exceptional examples in the neighbouring provinces—begins and ends here. It will, no doubt, be found beyond the Pyrenees as soon as it is looked for; but in that terra incognita of Spain, fifty different styles might exist without our so much as knowing the fact of their being there.

The principal and best preserved example of the domical style of Aquitaine is the church of St. Front, Perigeux. As will be seen from the woodcut (No. 486), its plan is that of a Greek cross, 182 ft. each way internally, exclusive of the apse, which is comparatively modern, and of the ante-church and porch extending 150 ft. farther west, which are the remains of an older church, now very much destroyed, to which the domical church seems to have been added in the 11th century.



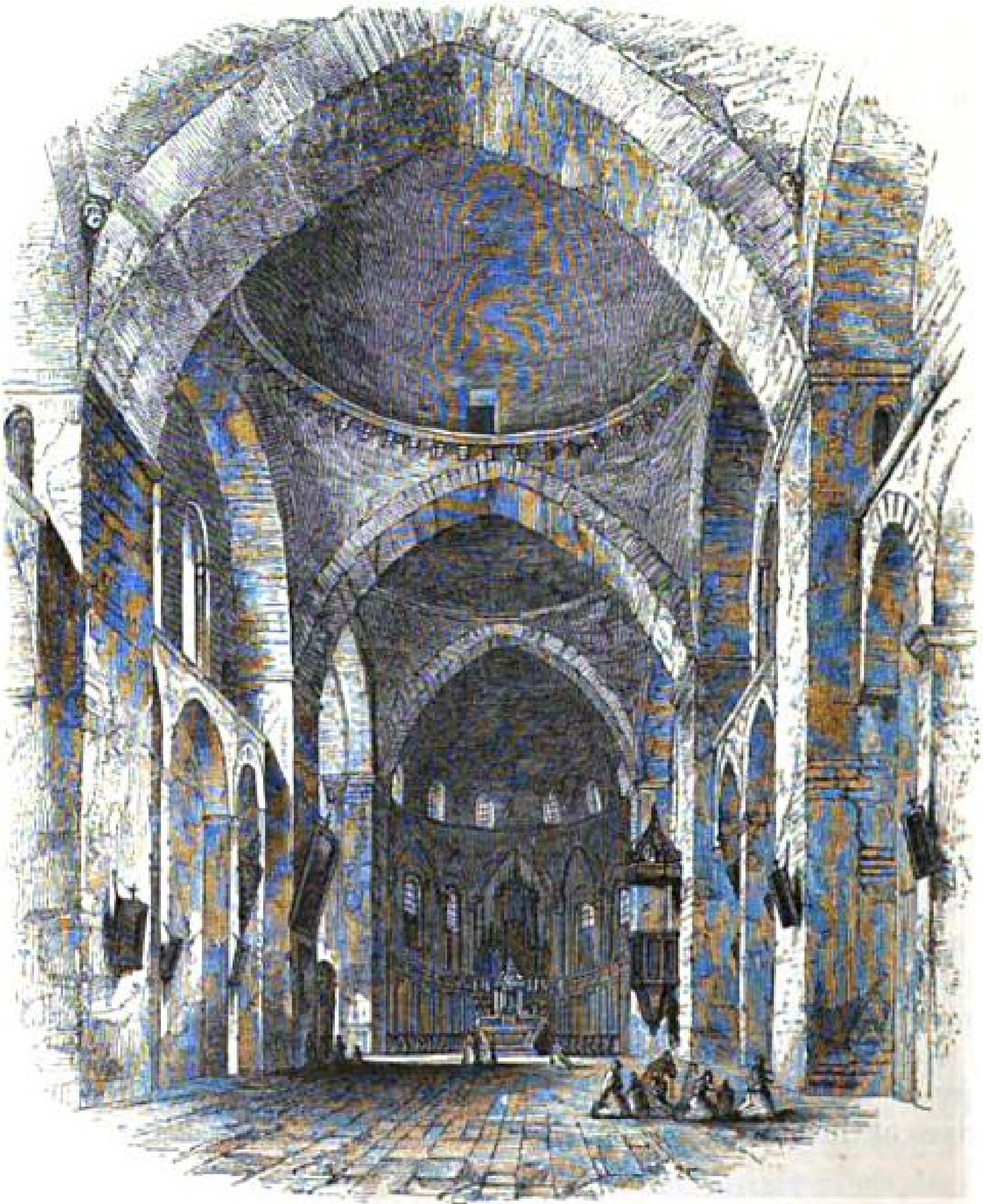
487. Part of St. Front, Perigeux. From Verneilh.

Both in plan and dimensions, it will be observed that this church bears an extraordinary and striking resemblance to that of St. Mark's, Venice, illustrated further on. The latter church, however, has the angles filled up so as to make it into the more usual Greek form of a square, and its front and lateral porches are additions, of a magnificence to which this church can lay no claim. The five cupolas are of nearly the same size, and similarly placed, in both churches; and the general similarity of arrangement points certainly to an identity of origin. Both too seem to be of about the same age, as there is no reason to doubt the data on which M. Felix de Verneilh[1] arrives at the conclusion that the church we now see was erected in the

[1] Journal Archéologique de M. Didron, vol. xi. p. 88 *et seq.*

very beginning of the 11th century. There is, however, one striking difference, that all the constructive arches in St. Front are pointed, those of St. Mark's are round. The form too of the cupolas differs; and in St. Front the piers that support the domes having been found too weak have been cased to strengthen them, which gives them an awkward appearance not found in St. Mark's. The difference that would strike a traveller most is, that St. Mark's retains its frescos and decorations, while St. Front, like almost all the churches of its age, presents nothing now but naked bare walls, though there cannot be a doubt but that it was painted originally. This indeed was the legitimate and appropriate mode of decoration of all the churches of this age, till it was in great measure superseded by the invention of painted glass.

The cupolas are at the present day covered with a wooden roof; but their original appearance is tolerably correctly represented in the woodcut No. 487, which, though not so graceful as Eastern domes usually are, is still a far more picturesque and permanent finishing for



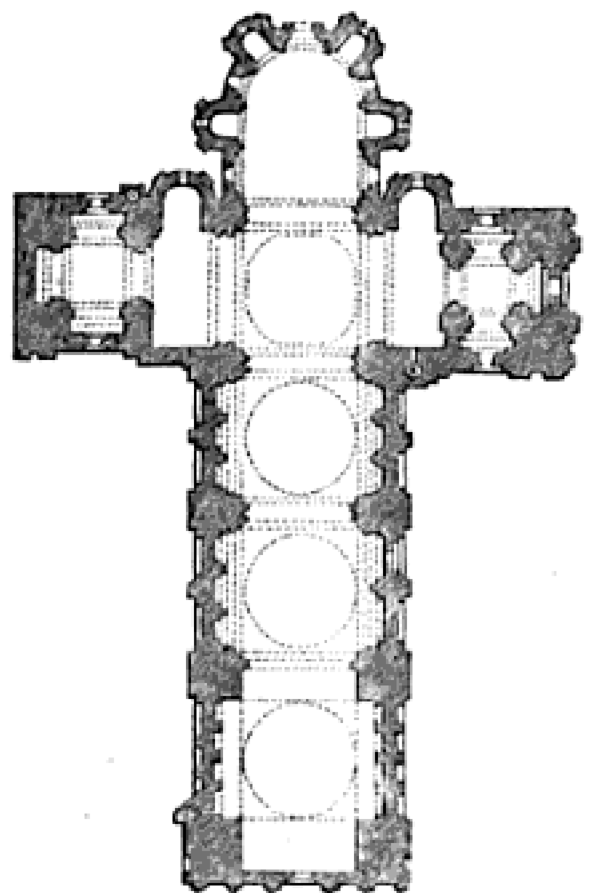
488. Interior of Church at Souillac. From Taylor and Nodier.

a roof than the wooden structures of the more Northern races. Its present internal appearance, from the causes above mentioned, is singularly bare and gloomy, and no doubt utterly unworthy of its pristine splendour.

The tower stands at the intersection between the old and new churches, and its lower part at least is so classical in its details, that it more probably belongs to the older Latin church than to the domical one. Its upper part seems to have been added, and its foundation strengthened, at the time of the building of the eastern part.

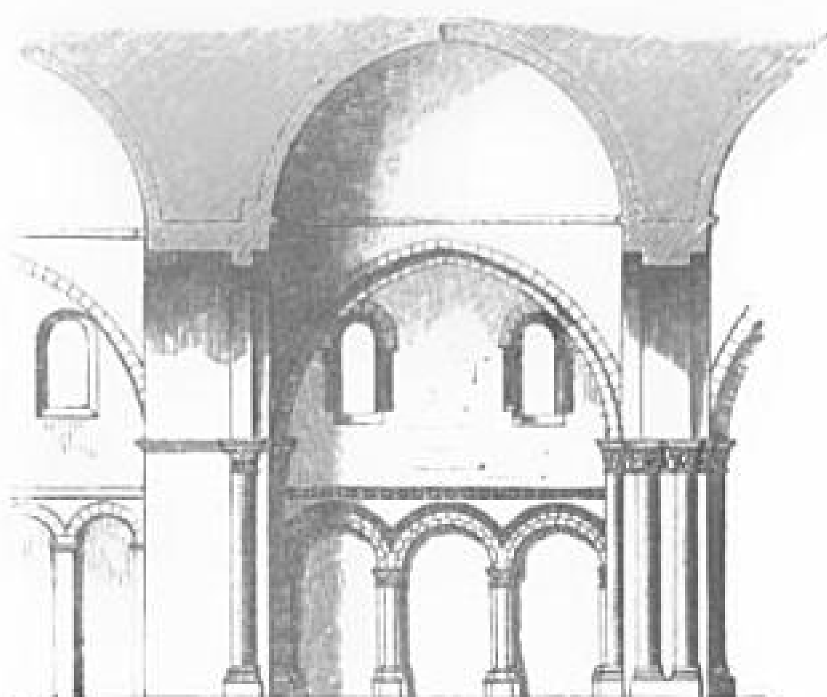
St. Front is perhaps the only specimen of a perfect Greek cross church with cupolas. That of Souillac is a good example of a modification of a form nearly similar, except that the cupola forming the eastern branch is here transferred to the western, making it thus a Latin instead of a Greek cross, which is certainly an improvement, as the principal space and magnificence is thus concentrated about the high altar, which is, or should be, the culminating point of effect. Its internal appearance, and that indeed of all the churches of this style, may be judged of from the view (woodcut No. 488), which in reality looks much more like the interior of a mosque in Cairo than that of a Christian church of the middle ages. The building is not large, being only 205 ft. in length internally, including the porch, and 110 across the transepts. Its age is not accurately known, antiquarians having insisted on placing it in the 12th century on account of its pointed arches, whereas my own impression is that it certainly belongs to the 11th century.

The cathedral at Angoulême (woodcut No. 489) is another and still more extended example of this class, having three domes in the nave, the first with the façade belonging certainly to the 11th, the rest to the 12th century. The form of these domes, with the arrangement of the side walls, will be understood from the woodcut No. 490. This method may be considered as typical of all this class of churches; and except in the mode of lighting the upper part, is by no means inferior in architectural effect to the intersecting vaults of after ages. The transepts here are shortened internally, so as only to give room for two small lateral chapels; but externally they are made very imposing by the addition of two towers, one at the end of each. This was another means of solving a difficulty that everywhere met the Mediæval architects, of giving the greatest dignity to the most holy place. The proper and obvious mode of doing this was of course to



489. Plan of Cathedral at Angoulême. From Verneilh. Scale 100 ft. to 1 in.

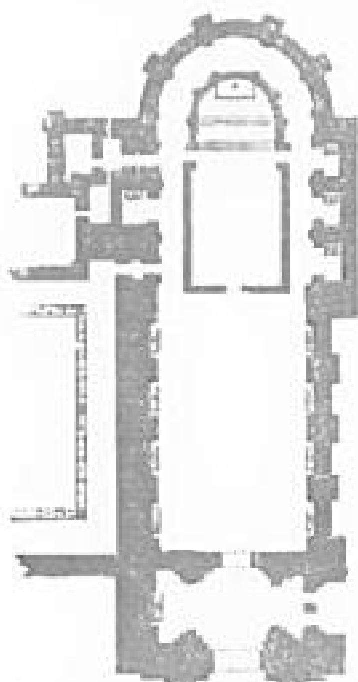
raise a tower or dome at the intersection of the nave and transepts, but the difficulties of construction involved in this mode of proceeding were such that they seldom were enabled to carry it out. This can only be said, indeed, to have been fairly accomplished in England. At Angoulême, as will be observed in the plan, there is no passage round the altar, nor is the choir separated from the body of the church. In Italy, and indeed in Germany, this does not seem to have been considered of importance; but in France, as we shall presently see, it was considered the most indispensable part of the arrangement of the church, and to meet this exigency the architects were afterwards obliged to invent a mode of isolating the choir, by carrying a lofty stone railing or screen round it, wholly independent of any of the constructive parts of the church. This, there is little doubt, was a mistake, and in every respect a less beautiful arrangement than that adopted in the North; still it seems to have been the only mode of meeting the difficulty in the absence of aisles, and in some instances the richness with which the screen was ornamented, and the unbroken succession of bassi-relievi and sculptural ornaments, make us forget that it is only a piece of church furniture, instead of being an integral part of the design of the building.



490. One Bay of Nave, Angoulême. From Verneilh. No scale.

One of the earliest examples of this arrangement which has been preserved is in the church at Moissac, remarkable for its strange mythical sculpture and rude pointed architecture, both belonging to the 11th century, and as unlike anything to be found in any other part of France as can well be conceived.

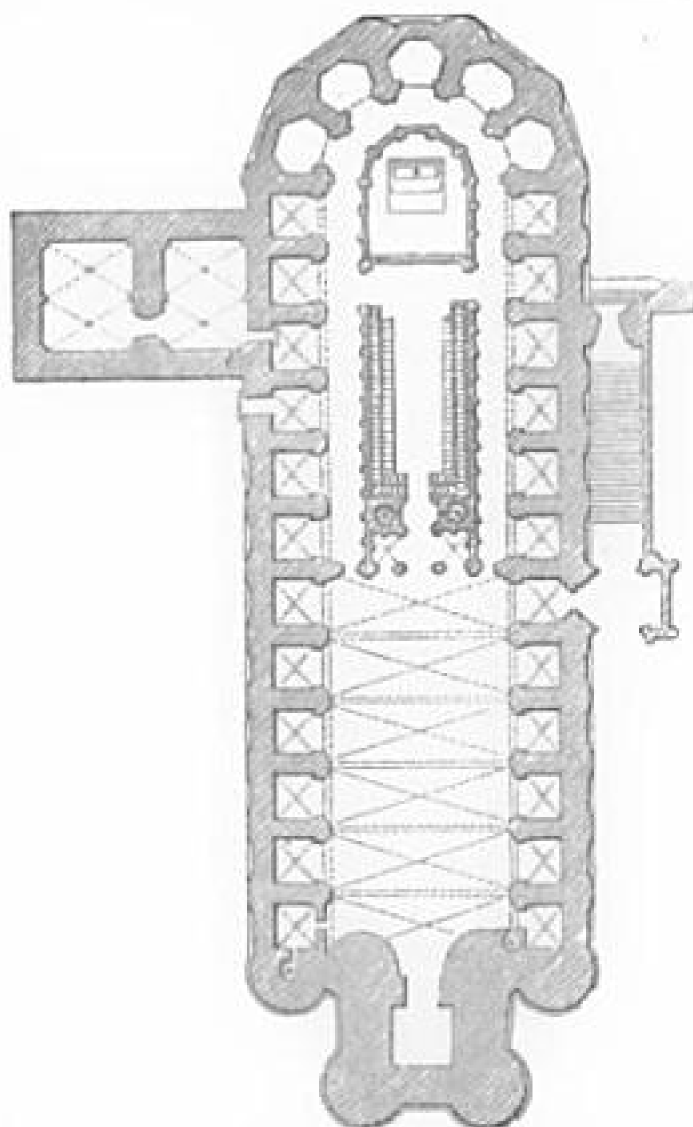
At a later age we find in the cathedral at Alby the same system carried to its acmé, and still adhered to in all essential parts in spite of the influence and predominance of the pure Gothic styles, which had then so generally superseded it. The foundation of the church was laid only in the year 1282, and it was not so far completed as to admit of its dedication till 1476. Its choir and fresco decorations were added by the celebrated Louis d'Amboise, who completed the whole in 1512. As will be seen from the plan (woodcut No. 492), the church is one immense unbroken vaulted hall, 55 ft. in



491. Plan of Church at Moissac. From Taylor and Nodier. Scale 100 ft. to 1 in.

width by 262 in length; or adding the chapels, the internal width is 82 ft., and the total length upwards of 300 ft.

As will be observed, the whole of the buttresses are internal, as is very generally the case in the South. Where painted glass is not used, and fresco painting is the principal mode of decoration, such a system has many advantages. The outer walls are scarcely ever seen. Great internal extent and an appearance of gigantic strength are imparted, and the whole space covered by the building is available for internal use. But where painted glass is the principal mode of decoration, as was the case to the north of the Loire, such a system was evidently inadmissible. The walls were internally kept as flat as possible, so as to allow the windows to be seen in every direction, and all the mechanical expedients were put outside. Admirably as the Northern architects managed all this, I cannot help thinking, if we leave the painted glass out of the question, that the Southern architects had hit on the more artistic arrangement of the two; and where, as at Alby, the lower parts of the recesses between the internal buttresses were occupied with deep windowless chapels, and the upper lights were almost wholly concealed, the result was an extraordinary appearance of repose and mysterious gloom. This character, added to its simplicity and the vastness of its vault, render Alby one of the most impressive churches in France, and a most instructive study to the philosophical inquirer into the principles of effect, as being a Gothic church built on principles not only dissimilar from, but almost diametrically opposed to those which we have usually been accustomed to consider as indispensable and inherent requisites of the style.


492. Plan of Cathedral at Alby. From Chapuy, Cathédrales Françaises. Scale 100 ft. to 1 in.

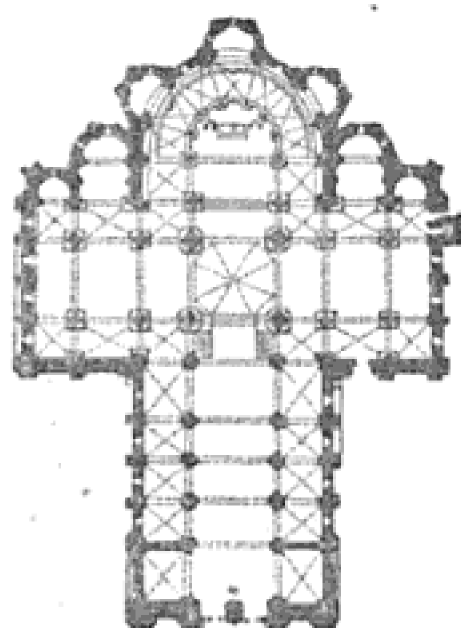
Besides those which are built wholly according to this plan, there are a great number of churches in this province which show its influence in more respects than one, though, having been rebuilt in a subsequent age, many of the original features are necessarily lost. The cathedral at Bordeaux is a remarkable example of this, its western portion being a vast nave without aisles, 60 ft. wide internally, and nearly 200 ft. in length. Its foundations show that, like that at Angoulême, it was originally roofed by three great domes; but being rebuilt in the 13th century, it is now covered by an intersecting vault of that age, with two stories of windows, and an immense array of flying but-

tresses to support its thrust, which all might have been dispensed with had the architects retained the original simpler and more beautiful form of roof. The cathedral of Toulouse shows the same peculiarity of a wide aisleless nave, leading to a choir of the usual construction of those of the 13th and 14th centuries in this country; and many other examples might be quoted where the influence of the earlier style peers through the Northern Gothic which succeeded and nearly obliterated it.

The Gothic churches of this province are neither so numerous nor so remarkable as those of the domical class we have just been describing; still there are several examples, far too important to be passed over, and which will serve besides to enable us to introduce the new form of church building which became prevalent in France, to the exclusion of all others, and indeed characteristic of the French style as contradistinguished from those of other countries.

The typical example of the style in this province is the great church of St. Saturnin, or St. Sernin, at Toulouse, dedicated in the year 1096. This church, though one of the finest and most interesting in France, has neither been drawn nor accurately described. The church, however, of Conques is of the same age and style, and though far inferior in size, will serve to explain the peculiarities of plan to which I have just alluded.

The nave, as will be observed (woodcut No. 493), has side aisles, above which runs a grand gallery. The roof of this gallery—in section the quadrant of a circle—forms an abutment to the roof of the nave, which is a bold tunnel vault ornamented by transverse ribs only. So far the constructive arrangements are the same as in the transitional church of Fontifroide, quoted above (p. 605). Passing from the nave to the choir, we come upon a more extended and complicated arrangement than we have hitherto met with. It will be recollected that the Romanesque apse was a simple large niche, or semi-dome; so it was in the Lombard and German styles described above, and generally even in the neighbouring Provençal style, and always—when unaltered—in the domical style last described. In the present instance it will be seen that a semicircular range of columns is substituted for the wall of the apse, an aisle bent round them, and beyond the aisle there are always three, five, or even seven chapels opening into it, which give it a complexity very different from the simple apse of the Roman basilicas and the other styles we have been describing, and at the same time a variety of perspective and a play of light and shade which are unrivalled in any similar invention of the middle ages. The apse, properly speaking, is a solid semi-cylinder, surmounted by a semi-dome, but always solid below, though generally broken by windows above. The *chevet* on the contrary is an apse, always enclosed

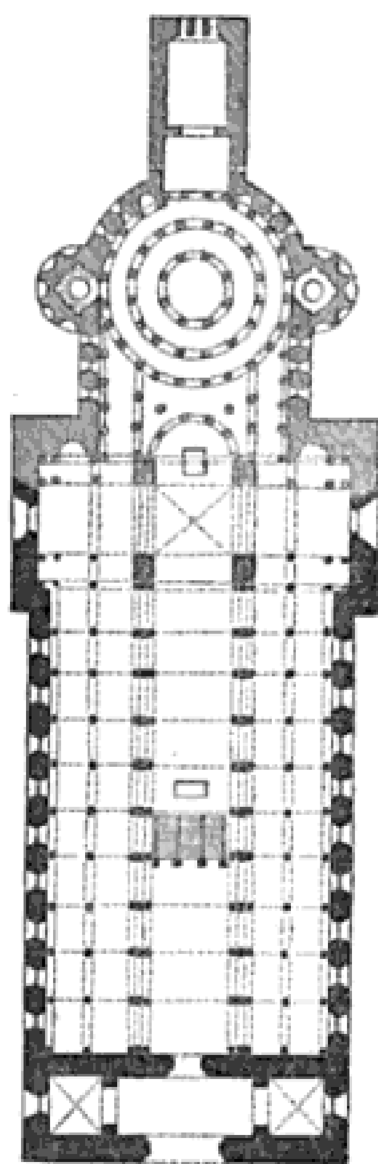


493. Plan of Church at Conques. From Taylor and Nodier. Scale 100 ft. to 1 in.

by an open screen of columns on the ground-floor, and opening into an aisle, which again always opens into three or more apsidal chapels. This arrangement is so peculiarly French, that it may properly be characterised by the above French word, a name once commonly applied to it, though latterly it has given way to the more classical, but certainly less suitable term of apse. Its origin too is worth inquiring into, and seems to be capable of easy explanation.

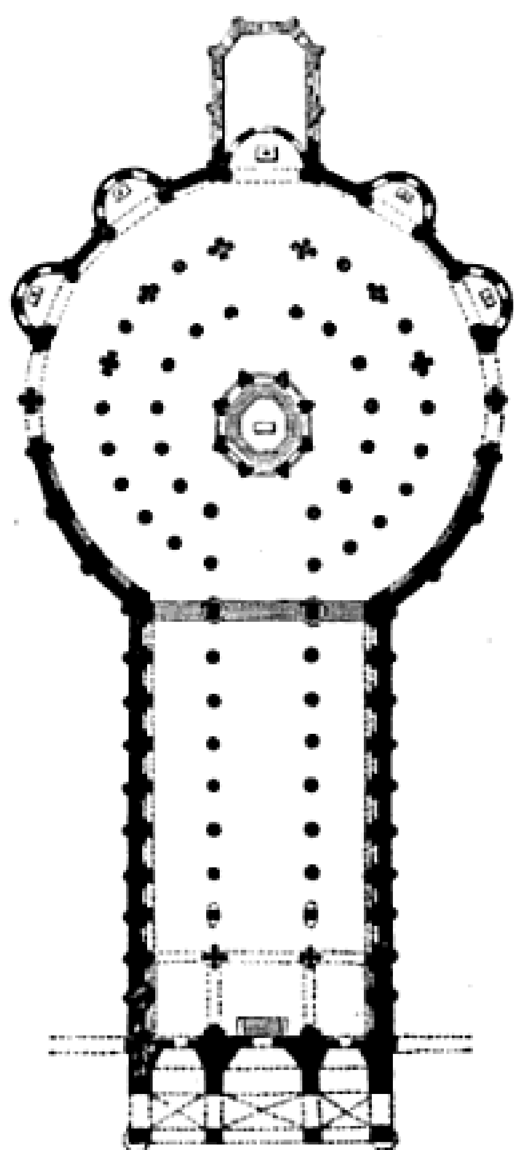
The uses which the various nations of Christendom made of the circular form of building left them by the Romans have been more than once adverted to above. The Italians used it almost always standing alone as a tomb-house or as a baptistery: the Germans converted it into a western apse, while sometimes, as in the example at Bonn (woodcut No. 436), they timidly added a nave to it; but the far more frequent practice with the Germans, and also in England, was to build first the round church for its own sake, as in Italy: then the clergy for their own accommodation added a choir, that they might pray apart from the people.

The French took a different course from all these. They built round churches like other nations, apparently, in early times at least, intended to stand by themselves; but in no instance do they appear to have applied them as naves, nor to have added choirs to them. On the contrary, the clergy always retained the circular building as the sacred depository of the tomb or relic, the Holy of Holies, and added a straight-lined nave for the people. Of this class was evidently the church which Perpetuus built in the 5th century over the grave of St. Martin at Tours. There the shrine was surrounded by 79 pillars arranged in a circular form: the nave was lined by 41,—20 on each side, with one in the centre of the west end, as in Germany. But more interesting, because more certain than this, is the church of St. Benigne, at Dijon, built undoubtedly in the first years of the 11th century, and pulled down only at the Revolution. It had been previously carefully measured and described in Dom Plancher's History of Burgundy. As seen by him, the foundations only of the nave were of the original structure, for in the year 1271 one of its towers fell, and so damaged it that the whole of that part of the church was then rebuilt in the perfect pointed style of that day. Without entering too much into detail, it will suffice to state that the part shaded dark in the woodcut (No. 494) is taken literally from Dom Plancher's plan, regarding which there can be no doubt, and the contemporary descriptions are so full that very little uncertainty can exist regarding the dimensions and general disposition of the nave.

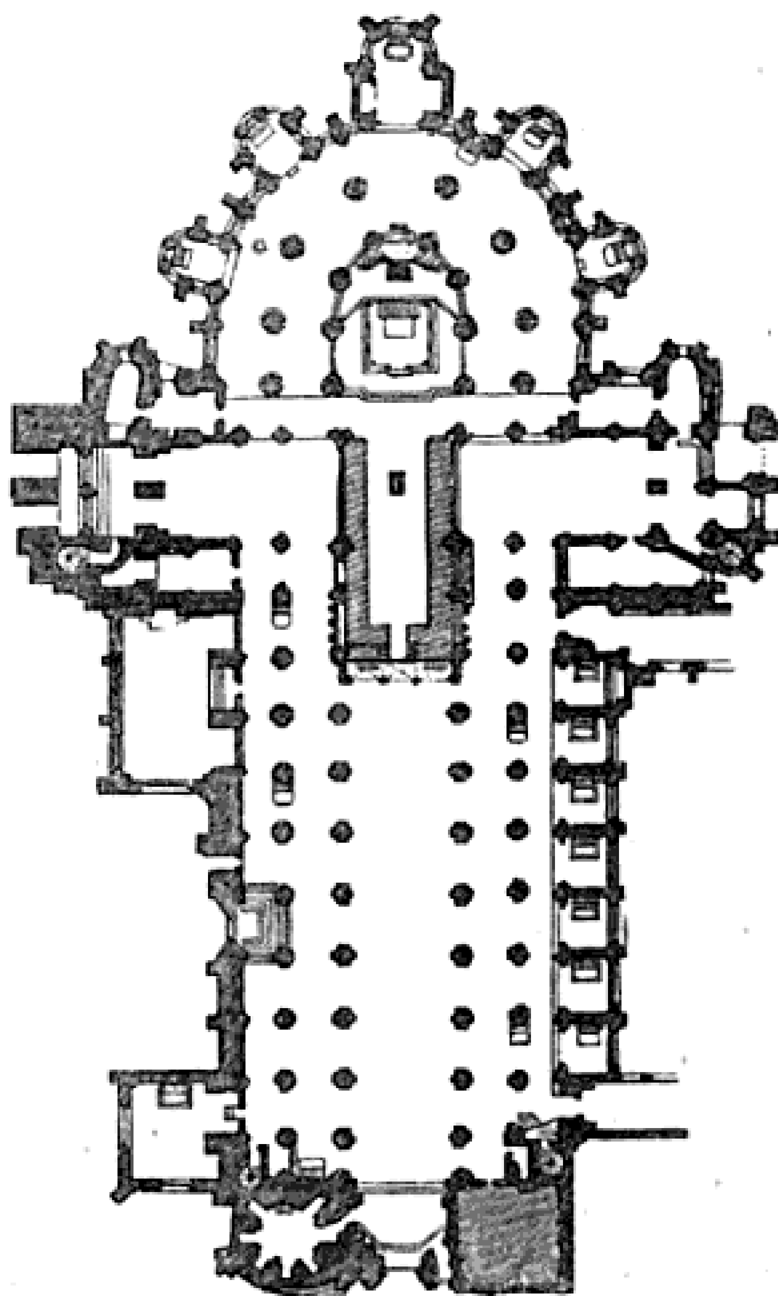


494. Plan of St. Benigne, Dijon. From Dom Plancher's Histoire de Bourgogne. Scale 100 ft. to 1 in.

The bodies of the confessors, SS. Urban and Gregory, were, it appears, originally buried in the church of St. John the Baptist, which seems to have been the name most properly applied to this circular building; they were afterwards transferred to the crypt below the high altar, in the rectangular part of the church. Above the lower story, which retained its name as a baptistery and burial place, the upper church was dedicated to the Virgin Mary; above that was the church of the Holy Trinity; and on the top of the round towers, on one side, as in the St. Gall plan (p. 556), the altar of St. Michael, on the other probably of Gabriel.



495. Church of Charroux.
Scale 100 ft. to 1 in.



496. Plan of St. Martin at Tours.
Scale 100 ft. to 1 in.

Another church of the same class, though of a later age, and of which enough still remains to enable us to trace with certainty its plan, is that of Charroux on the Loire, which shows in perfection the arrangement described, and it required only one step further to bring the system to its complete state. This, it will be seen, was very nearly accomplished in the rebuilding of the church of St. Martin at Tours in the 12th century. The architect was still somewhat hampered by feeling himself obliged to follow the outline of the old basilica of Perpetuus, and to build on its foundation so as not to disturb either the shrine of the saint, or any places considered holy; but still he has very

nearly perfected the arrangement of the *chevet*, by omitting half the circle or nearly so, and commencing the walls of the nave from its tangents. This is done in all its details in the church of Conques, described above, where, tied down by no previous building, the architect was allowed free scope for his design. The plan so produced was never lost sight of by the French, but was developed into a vast variety of beautiful forms, which we shall shortly have to examine.

When once this transformation of the round church into the chevet termination of a basilica was effected, the French adhered to it with singular constancy. I am not aware of their ever having built a circular church afterwards intended to stand alone; and there are very few instances of basilicas of any importance without this form of apse. Some, it is true, have been rebuilt on old foundations, with square eastern ends, but this is rare and exceptional, the chevet being the true and typical termination.

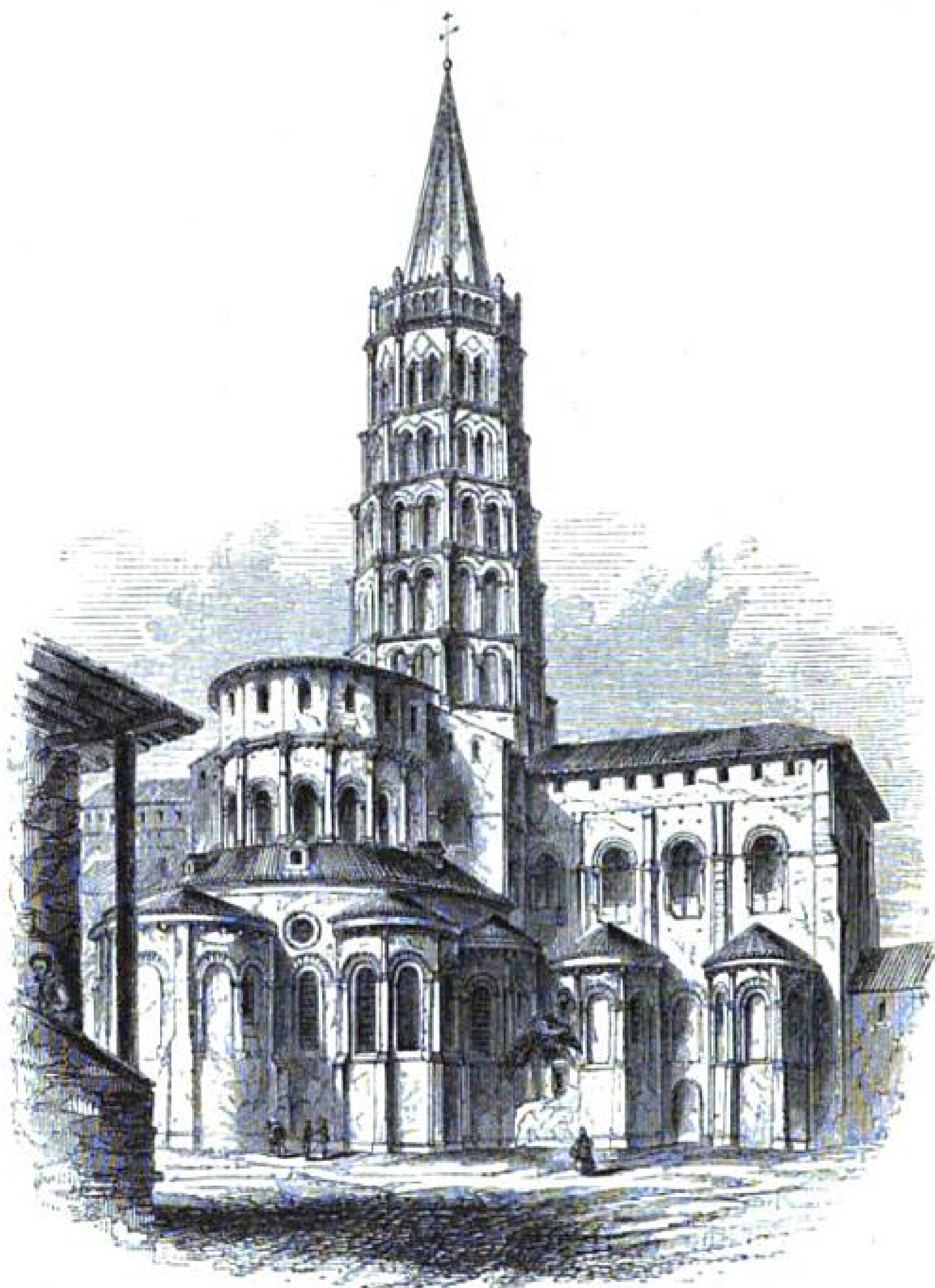
The church at Conques and that of Toulouse both show it fully and beautifully developed, though externally the chapels hardly fit pleasingly into the general design, and look more as if after-thoughts. This, however, was soon afterwards remedied, and the transformation made complete.

The solidity with which these churches were built, and the general narrowness of their proportions as compared with the domical churches of the same time and district, enabled the architects to attempt some splendid erection on the intersection of the nave and transepts, which is the spot where height should always be aimed at. The dome at Cruas in the Provençal district has already been described (woodcut No. 482). The church at Conques has one as important, though dissimilar; but the finest is that of St. Sernin at Toulouse (woodcut No. 497), which rivals, if indeed it does not in some respects surpass, our spires at Salisbury, Norwich, and elsewhere. The 3 lower stories only are of the age of the church; the 2 upper were added long afterwards, but adapted with remarkably good taste. Though differing in design and detail, their general form and outline is such as to accord most happily with the older structure on which they are placed.

The form of the spire being octagonal admits of its including the width of the side aisles as well as of the nave in its base, and thus gaining that breadth in which all pointed Gothic spires of this class are so deficient, and which was only attained in the domes of the Renaissance, and then at the expense both of truthfulness of construction, and by concealed mechanical expedients that almost certainly ensure their early destruction.

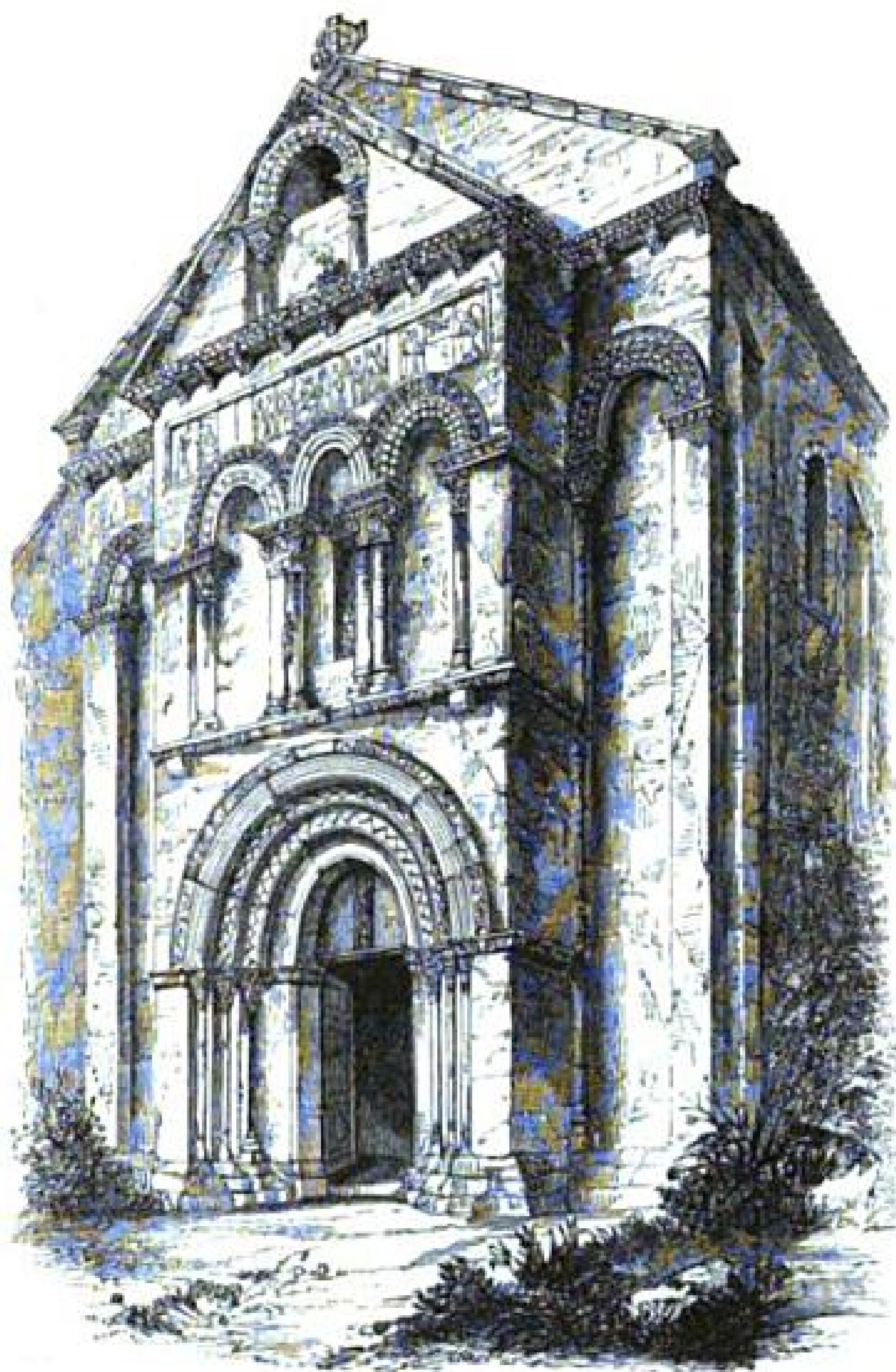
In this example there is a sameness of design in placing so many similar stories one over the other, merely diminishing in size. The general effect, however, is good, and for a central object it is, if not the finest, certainly one of the very best which France possesses.

As in all French styles, the western façades were the parts on which the architects lavished their ornaments with the most unsparing hand. Generally they were flat, and most of them now terminate squarely, with a flat line of cornice of slight projection. Beneath



497. St. Sernin, Toulouse. From Taylor and Nodier.

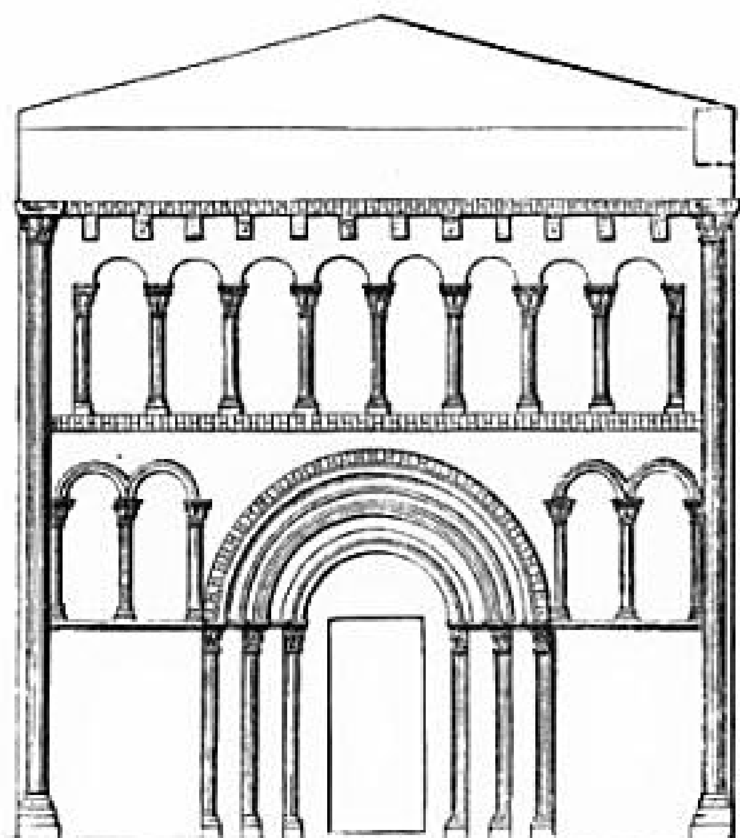
this there generally is a range of arches filled with sculpture or intended to be so—the central one, and that only, being used as a window. Beneath this is the great portal, on which more ornament is bestowed than on any other feature of the building. Some of these gateways in this province, as in Provence, are wondrous examples of patient labour, as well as models of beauty. They possess more than the richness of our own contemporary Norman portals, with a degree of refinement and delicacy which our forefathers did not attain till a much later age. Some of these church-portals in Aquitaine are comparatively simple, but even they make up for the want of sculpture by the propriety of their design and the elegance of their composition.



498. Church at Loupiac. From Leo Drouyn, Architecture au Moyen Age.



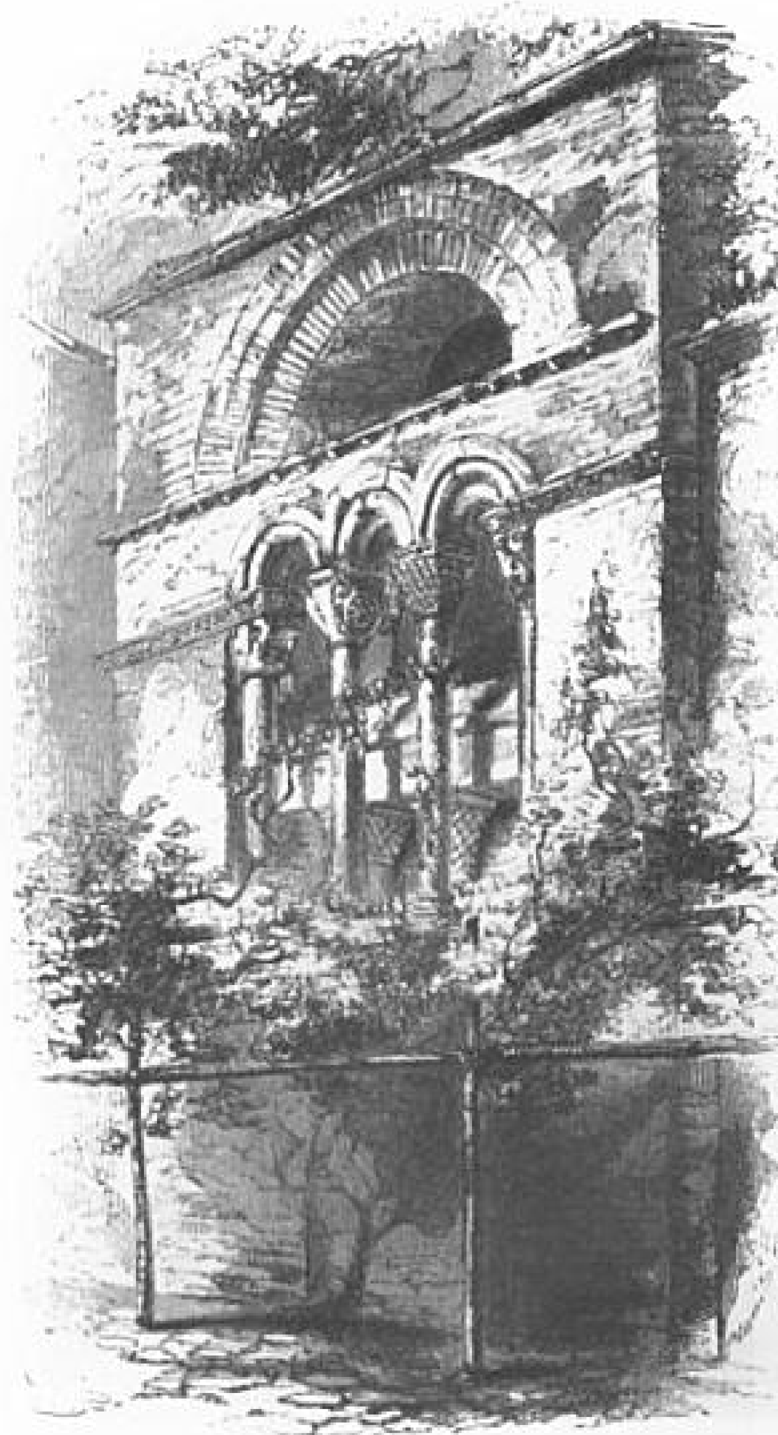
499. St. Eloi, Espalion. From Taylor and Nodier.



500. Church at Aillas.

The church at Aillas presents a fair specimen, on a small scale, of the class of design which is peculiar to the façades of Aquitania, though it is doubtful if the original termination of the gable has not been lost and replaced by the one shown in the drawing. The façade of Angoulême is designed on the same plan, though much richer. Those of Civray, Parthenay, and many others, show the same characteristics. They appear to have been designed, not to express the form and construction of the interior, but as a vehicle for a most extensive series of sculptures exhibiting the whole Bible history. Sometimes, however, the design is more strictly architectural, as in the façade of the church of Loupiac (woodcut No. 498, on the previous page), where sculpture is wholly subordinate, and the architectural members are so grouped as to form a pleasing and effective design, not unlike some to be found farther north and in our own country.

The varieties of these, however, are so endless that it would be in vain to attempt either to particularize or describe them. Many of these arrangements are unusual, though almost always pleasing, as in the church at Espalion (woodcut No. 499), where the belfry is erected as a single wall over the chancel-arch, and groups well with the apsidal termination, though, as in almost all instances in this



501. Tomb at St. Pierre, Toulouse. From Taylor and Nodier.

country, the western façade wants feature and character sufficient to balance it.

Generally speaking, the cloisters and other ecclesiastical adjuncts are so similar to those of Provence, described in the last chapter, that a separate description of them is not needed here. They are all of the columnar style, supporting small arches on elegant capitals of the most varied and elaborate designs, guided by the delicate feeling of the south, which prevented their running into the barbarism so common farther north when the architects attempted anything beyond the common range of richness.

The same feeling pervades the tombs, monuments, and domestic architecture of this part of France, making them well worthy of study in far more detail than has yet been attempted. The woodcut (No. 501) represents one small example of a tomb built into a wall behind the church of St. Pierre at Toulouse. It is one of those graceful little bits of architecture which meet one at every turn in the pleasant south, where the people have an innate feeling for art which displays itself in the smallest as well as in the most important works.

CHAPTER III.

ANJOU.

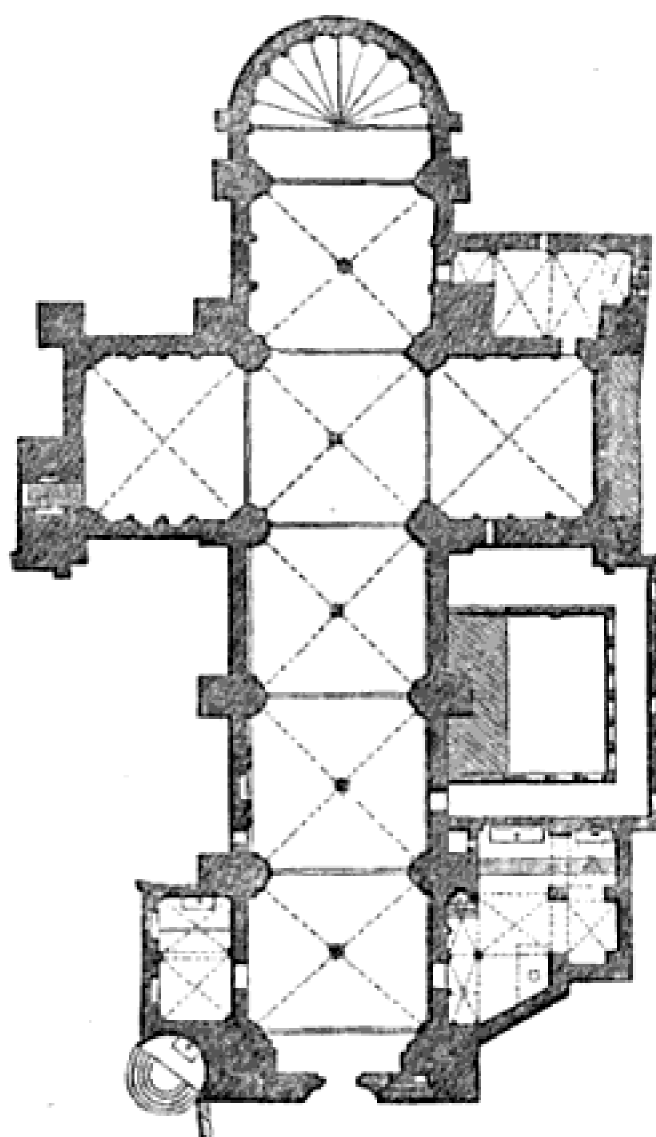
CONTENTS.

The province of Anjou cannot perhaps be so distinctly defined as the two already described. On the north indeed it is separated by the clearest line both from Normandy and from the Frankish province. But in the south, as before remarked, it is not easy to say, in the present state of our knowledge, what belongs to Aquitaine and what to Anjou. Not that there is any want of sufficient marks of distinction between the *styles* themselves, but a large portion of *examples* appear to belong to a sort of debateable ground between the two. This, however, is true only of the buildings on the borders of the province. The two capitals of Angers and Poitou are full of examples such as could belong to no other province, and generally speaking the same remark applies to all the principal churches of the province.

The age of the greatest splendour of this province is from the accession of Foulques Nerra in the year 989 to the death of Henry II. of England, 1190. During these two centuries its prosperity and independent power rose to a height which it neither maintained afterwards nor ever regained. Before this time the buildings found scattered here and there are few and insignificant. During its continuance every town was enriched by some noble effort of the piety and architectural taste of the age. After its conclusion the completion of works previously commenced was all that was attempted. The rising power of the northern provinces, and of the English, seems to have given a check to the prosperity of Anjou, which it never thoroughly recovered; for when it did to a certain extent again become prosperous and wealthy, it was under the influence and dominion of the great central Frankish power which ultimately absorbed into itself all the separate nationalities of France, and obliterated those individualities which are so strikingly prominent in the earlier part of her history.

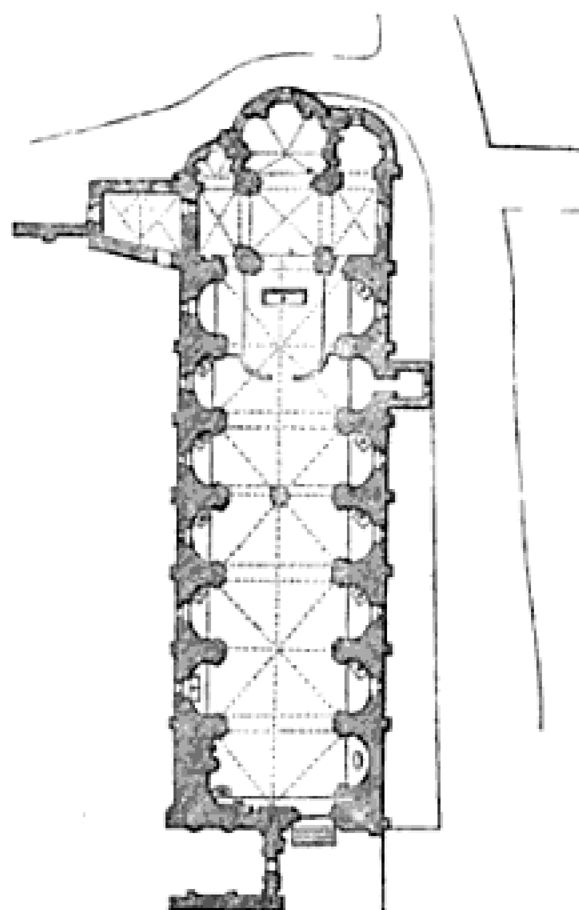
The plan of St. Maurice (woodcut No. 502), the cathedral of Angers, may be considered as a typical example of the Angiovine style, and will serve to explain in what it differs from the northern or resembles the southern styles. On comparing it with the plan of Souillac, and more especially with that of the cathedral at Angoulême, it will be seen how nearly it resembles them—the great difference being that, instead of cupolas over each square compartment, it has the intersecting vault of the northern styles. Its buttresses too are external, but less in pro-

jection than might almost be supposed necessary to support a vault 52 ft. in span. These certainly show a tendency towards a northern style of construction; but the absence of free standing pillars or of aisles, and the general arrangement of the whole building, are rather southern peculiarities. Externally its façade has been successively piled up at various times from the 12th century, when the body of the church was commenced and nearly finished, to the 16th, when it was completed in the style of the Renaissance.



502. Cathedral at Angers. From Faultrier, Anjou et ses Monumens. Scale 100 feet to 1 inch.

Another church in the same city, of equal interest, though not so large or important, is that of the Trinité. It consists of one nave without transepts, 52 ft. wide, measuring into the recesses, though only 32 ft. wide between the piers. It is roofed with an intersecting vault in 8 compartments, of somewhat northern pattern, but with a strong tendency towards the domical forms of the southern style, and possessing a peculiarity rather frequently attempted, of trying to attain greater appearance of length by lowering the vaults from the entrance towards the altar. Thus at the entrance it is 80 ft. in height, but gradually sinks to 65 at the eastern end. This contrivance is a mere trick, and, like all such in architecture, a failure.



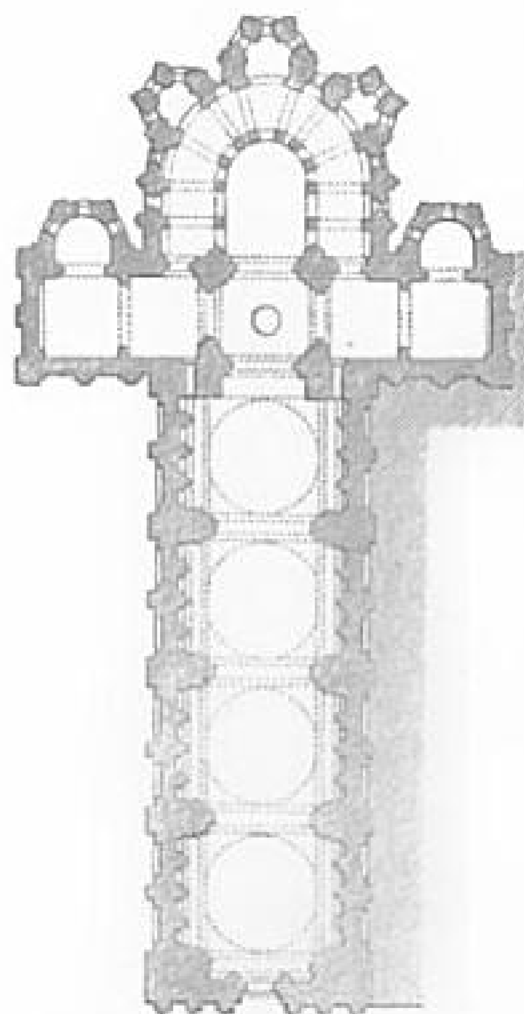
503. St. Trinité, Angers. From Faultrier. Scale 100 feet to 1 inch.

The details of this church are rich and good throughout, and altogether the effect of the 7 recesses on each side is pleasing and satisfactory. Indeed it may be considered as the typical and best example of that class of churches, of which a later specimen was the cathedral at Alby, described in the last chapter, and which are so beautiful as to go far to shake our absolute faith in the dogma that aisles are indispensably necessary for the proper effect of a Gothic church.

Even more interesting than either of these, in an archæological point of view, is the little castle chapel at Loches, commenced by Geoffrey Grise Gonelle, Count of Anjou, in the year 962; it was continued by his son, Foulques Nerra, to whom the nave must be ascribed; while the western tower is probably the only part now remaining of the older church. The eastern portion was rebuilt in the 12th century by Thomas Pactius, the prior, and completed in 1180—the latter part being in the well-known Norman style of that age. An interesting point in this church is that the Norman round-arch style is built over and upon the pointed arches of the nave, which are at least a century older, having been erected between the years 987 and 1040. It will be seen from the view given of this chapel that the pointed style here used has nothing in common with the pointed architecture of the north of France, but is that of the south, such as we have seen in the churches of Perigeux and Souillac. It is used here, as there, to support domes. These, however, in this instance, instead of being circular, are octagonal, and rise externally in octagonal cones of stone-work, giving a very peculiar but interesting and elegant outline to the building. They also point out a method by which roofs at least as high as those which afterwards prevailed could have been obtained in stone if this mode of vaulting had been persevered in. The church of St. Sergius at Angers has pointed arches, certainly of an early date, but whether so old as this or not is not quite certain.



504. View of the Interior of Loches. From a Sketch by the Author.



505. Plan of Church at Fontevrault. From Verneilh. Scale 100 feet to 1 inch.

It has already been suggested that all round churches were originally sepulchral or intended to be so. There can also be little doubt but that the halves of round churches, which, as explained above, were adopted as the chevet termination of French basilicas, were also intended either to symbolize a tomb-house or relic-shrine, or actually to serve as the sepul-

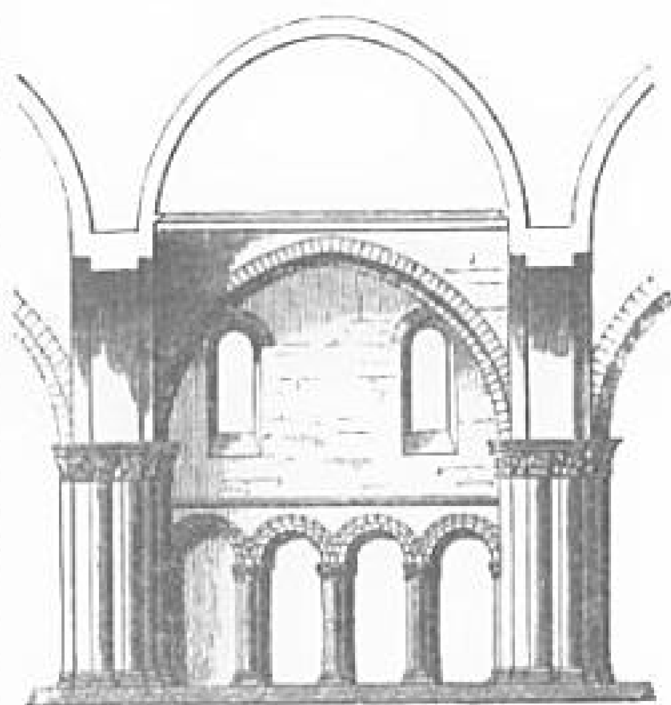
chres of distinguished personages. This certainly appears to have been the case in the earlier French examples, and among these one of the most splendid in this province, indeed almost the only one of any real importance, is that of Fontevrault, where repose, or rather reposed, the remains of two of our Plantagenet kings, Henry II. and Richard I., with others of their family. As will be seen from the woodcut (No. 506), it is a mausoleum worthy of them, and a pleasing example of the style of the age, and though certainly not so peculiarly Angiovine as the apsidal churches of Angers and Poitiers, has still distinguishing characteristics which are not found in any other province of France. The nave is surmounted by 4 domes, as is usual in this and the more southern provinces. It is only in having an aisle trending round the apse that it differs from the ordinary churches. It may be seen from the plan how awkwardly this is done, and how ill its narrow dimensions agree with the spaciousness of the nave.



506. View of Chevet at Fontevrault. From Faultrier.

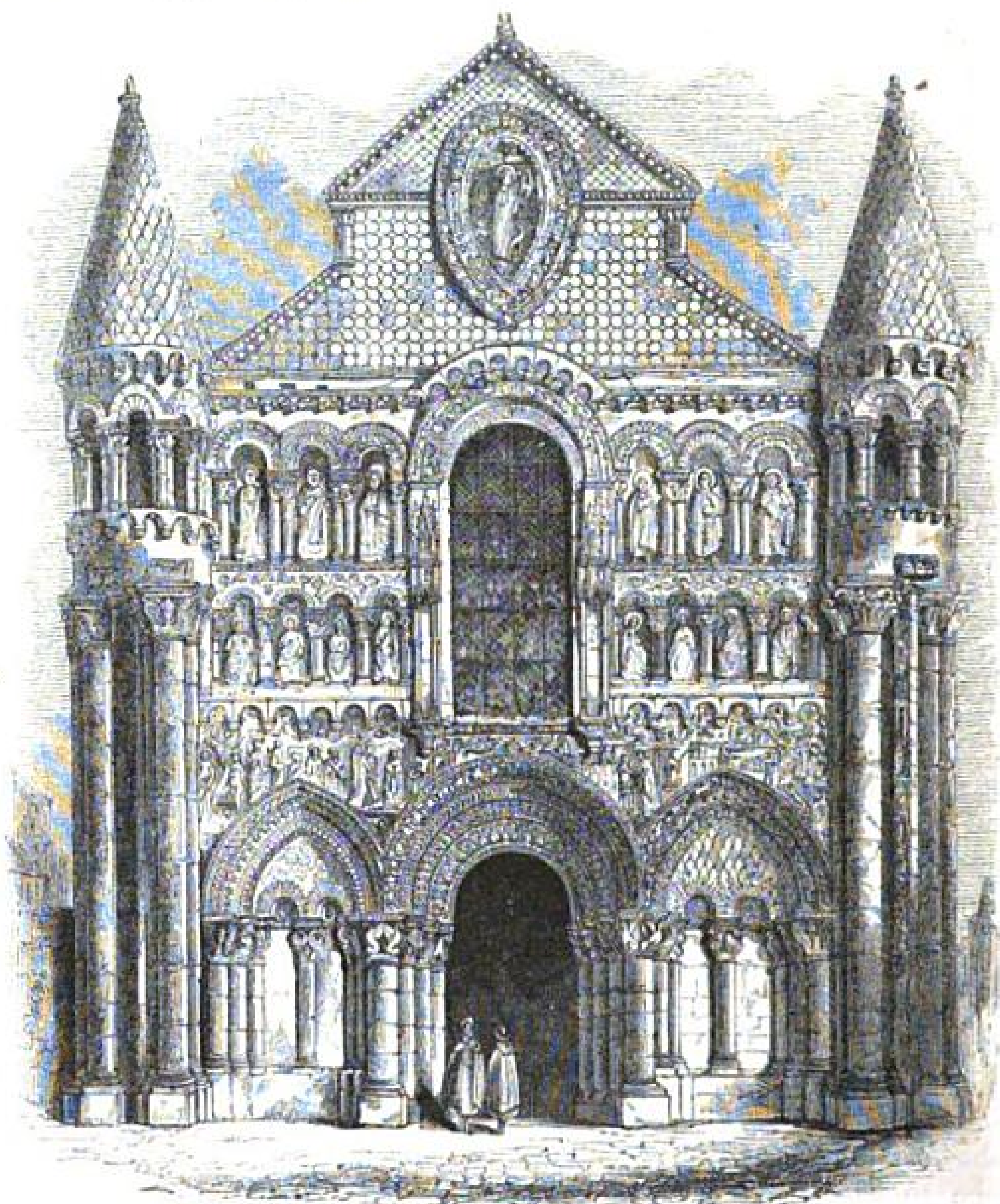
Woodcut No. 507 demonstrates how similar the domes of its nave are to those of Angoulême, Souillac, and those of the south—this domical arrangement being in fact as characteristic of this age and locality as the intersecting vault afterwards became of the northern provinces.

If the apse or chevet of this church is not so strictly Angiovine as other examples, the façade of the church of Notre Dame de Poitiers (shown in woodcut No. 508) is not open to the same remark, being strictly local in all its parts. Originally the one window it possessed was circular, but in the 15th century, as may be seen from the mouldings then introduced, it was cut down to its present form, no doubt to make more room for painted glass, which at that age had superseded all other modes of decoration; whereas in the 12th century, to which the church belongs, external sculpture and internal mural paintings were the prevailing modes of architectural expression. As may be seen from the view, sculpture is



507. Elevation of one of the Bays of the Nave at Fontevrault. From Verneilh.

here used in a profusion of which no example belonging to a later age exists; and though we cannot help admiring the larger proportions and broader masses of subsequent builders, still there is a richness and a graphic power in the exuberant sculpture of the earlier façades which we miss in after-ages, and of which no mere masonic excellence can ever supply the place.



508. Façade of Church of Notre Dame at Poitiers. From Chapuy, Moyen Age Monumental.

This, though not the largest, is probably the best and richest of its class in this province. The border churches of Parthenay, Civray, and Ruffec, all show traces of the same style and the same forms more or less richly carried out; but none have the characteristic corner towers, nor do they retain their pedimented gable so perfect as Notre Dame at Poitiers.

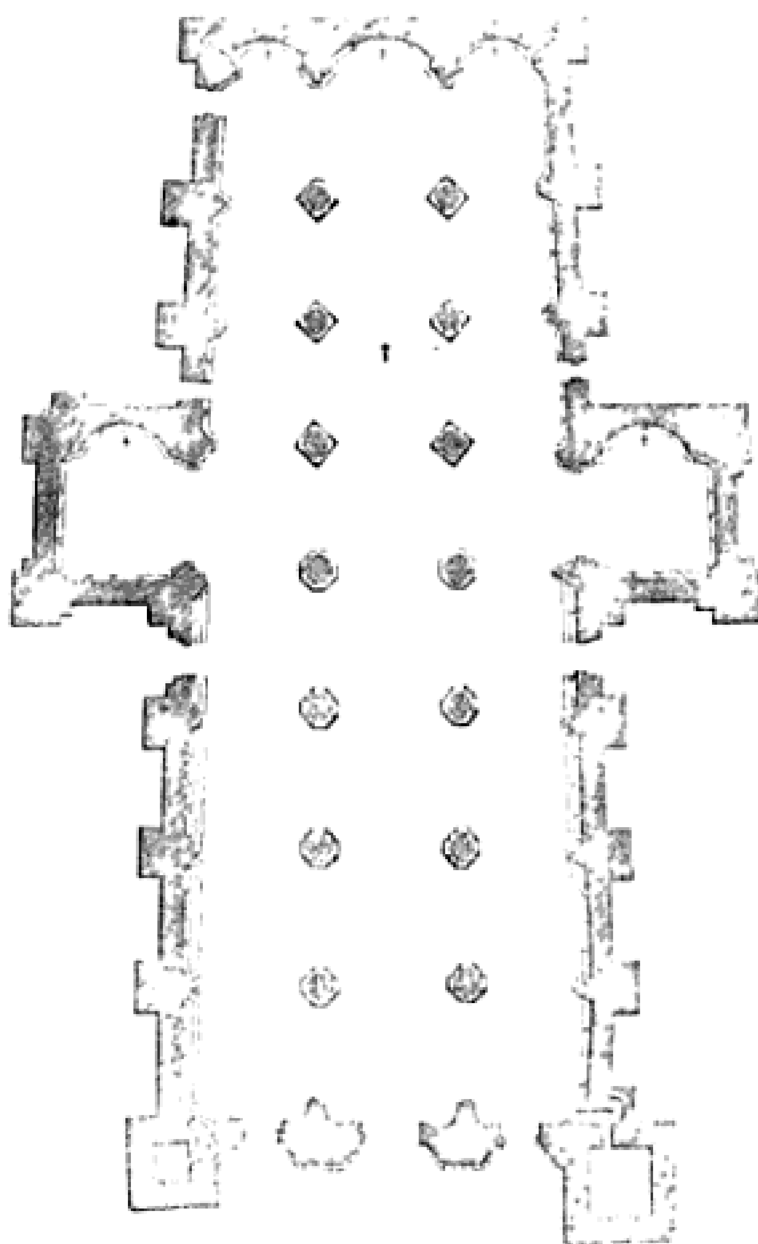
Besides this one there are four churches in Poitiers, all which were certainly erected in the 11th century, and the greater part of them

still retain unaltered the features of that age. The oldest, St. Hilaire (A.D. 1049), is remarkable for an irregularity of plan sufficient to puzzle all the antiquaries of the land, and only to be accounted for on the supposition of its being built on the foundation of some earlier church, which it has replaced.

Moutierneuf (1066) possesses in its nave a circular-headed tunnel-vault, ornamented with transverse ribs only, but resting on arches which cut slightly into it, without any string-course or plain wall, as is usual in the south, showing a tendency towards intersecting vaulting, indicative of an approach to the north.

The most remarkable parts of St. Porchaire and St. Radagonde are their western towers, which are fine specimens of their class, especially the latter, which changes pleasingly into an octagon before terminating in a short spire. Altogether this church shows that elegance of feeling the want of which is a chief defect of the contemporary Norman style.

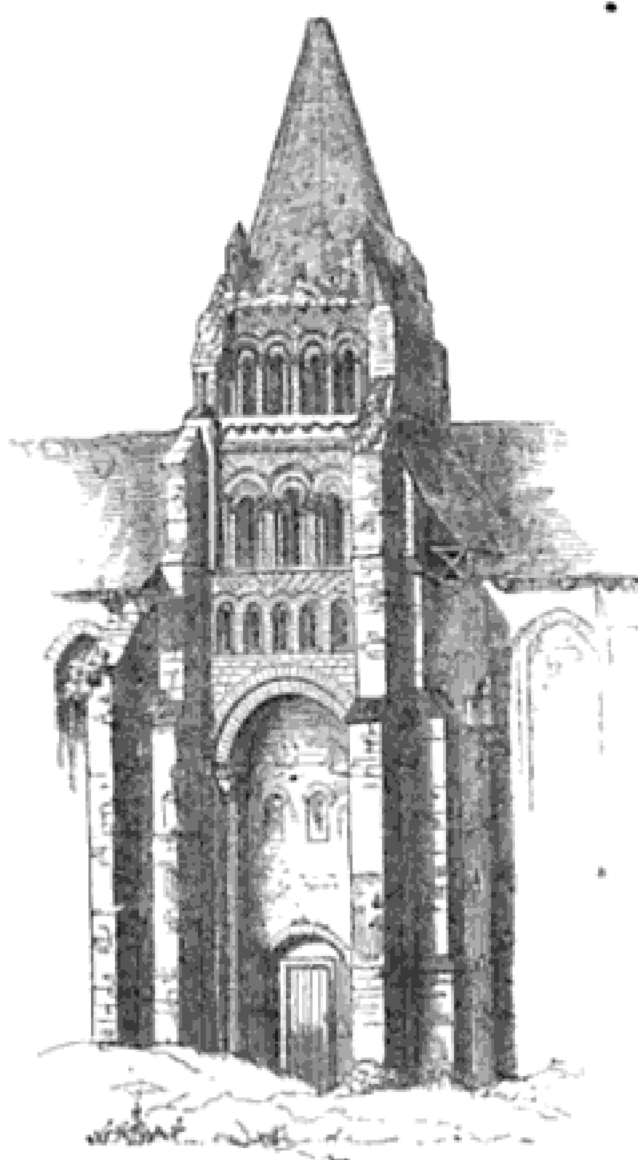
The cathedral of Poitiers was founded in the year 1161. Its eastern end belongs to a transitional period, while its western front was not completed till the Pointed Gothic style had reached its utmost perfection, 200 years later. Its plan, however, probably belongs to the earlier period, and presents so strong a contrast to the northern churches of the same date that it may be quoted here as belonging to the style which we are describing. The east end is square externally, but internally contains 3 shallow niches like those on each side of St. Trinité at Angers. Its transepts are mere chapels; but its most remarkable feature is the convergence of its sides towards the east; and as its vault sinks also towards that end, a false perspective is attained, which certainly at first sight gives the church an appearance of greater length than it really possesses. The 3 aisles too, being of the same height, add to the effect of space; so that, taken as a whole, this church may be quoted as the best example known of the system of attaining a certain effect by these means, and is well worthy of study on this account. It, however, I



509. Plan of Cathedral at Poitiers. From Coulier's Histoire de la Cathédrale de Poitiers. Scale 100 ft. to 1 in.

think, admits of no doubt but that the Northern architects were right in rejecting all these devices, and basing their efforts on better understood and honester principles.

It is in this province that, proceeding from the south, spires are first found in common use. The characteristic of the south is the square flat-roofed tower or octagonal dome. In Anjou, towers standing by themselves, and crowned by well-proportioned spires, seem early to have been introduced, and to have been considered almost essential parts of church architecture. The representation (woodcut No. 510) of that attached to the interesting church of Cunault on the Loire is of the most common type. There is another at Chemille, almost exactly like it, and a third on the road between Tours and Loches, besides others differing only slightly from these in detail. They want the aspiring lightness afterwards attained in Gothic spires; but their design and ornaments are good, and their outlines well suited to the massive edifices to which they are attached.



510. Spire at Cunault. From Faultrier.

Most of the conventual buildings attached to these churches in this province have disappeared, either during the struggle with the Huguenots, or in the later and more disastrous troubles of the Revolution, so that there is scarcely a cloister or other similar edifice to be found in the province. One or two fragments however still exist, such as the Tour d'Evrault.[1] This is a conventual kitchen, not unlike that at Glastonbury, but of an earlier age, and so far different from anything else of the kind that it was long mistaken for a building of a very different class.

Another fragment, though probably not ecclesiastical, is the screen of arches recently discovered in the hôtel of the Préfecture at Angers. As a specimen of elaborate exuberance of barbarous ornament, it is unrivalled even in France, but is much more like the work of the Normans than anything in the neighbourhood. Owing to its having been so long built up, it still retains traces of the colouring with which all the internal sculptures, at least of this age, were adorned.

The deficiency in ecclesiastical buildings in this province is made up to a great measure by the extent and preservation of its Feudal re-

[1] This building is well illustrated in Turner's Domestic Architecture.

mains, few of the provinces of France having so many and such extensive fortified castles remaining. Those of Angers and Loches are two of the finest in France, and there are many others scarcely less magnificent. Few of them, however, have features strictly architectural; and though the artist and the poet may luxuriate on their crumbling time-stained towers and picturesque decay, they hardly belong to such a work as this, nor afford materials which would advance our knowledge of architecture as a fine art.

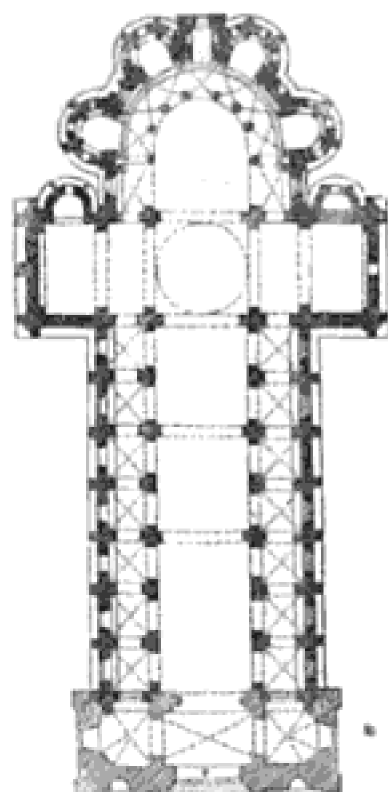
CHAPTER IV.

AUVERGNE.

CONTENTS.

Church at Issoire — Puy — Fortified church at Royat.

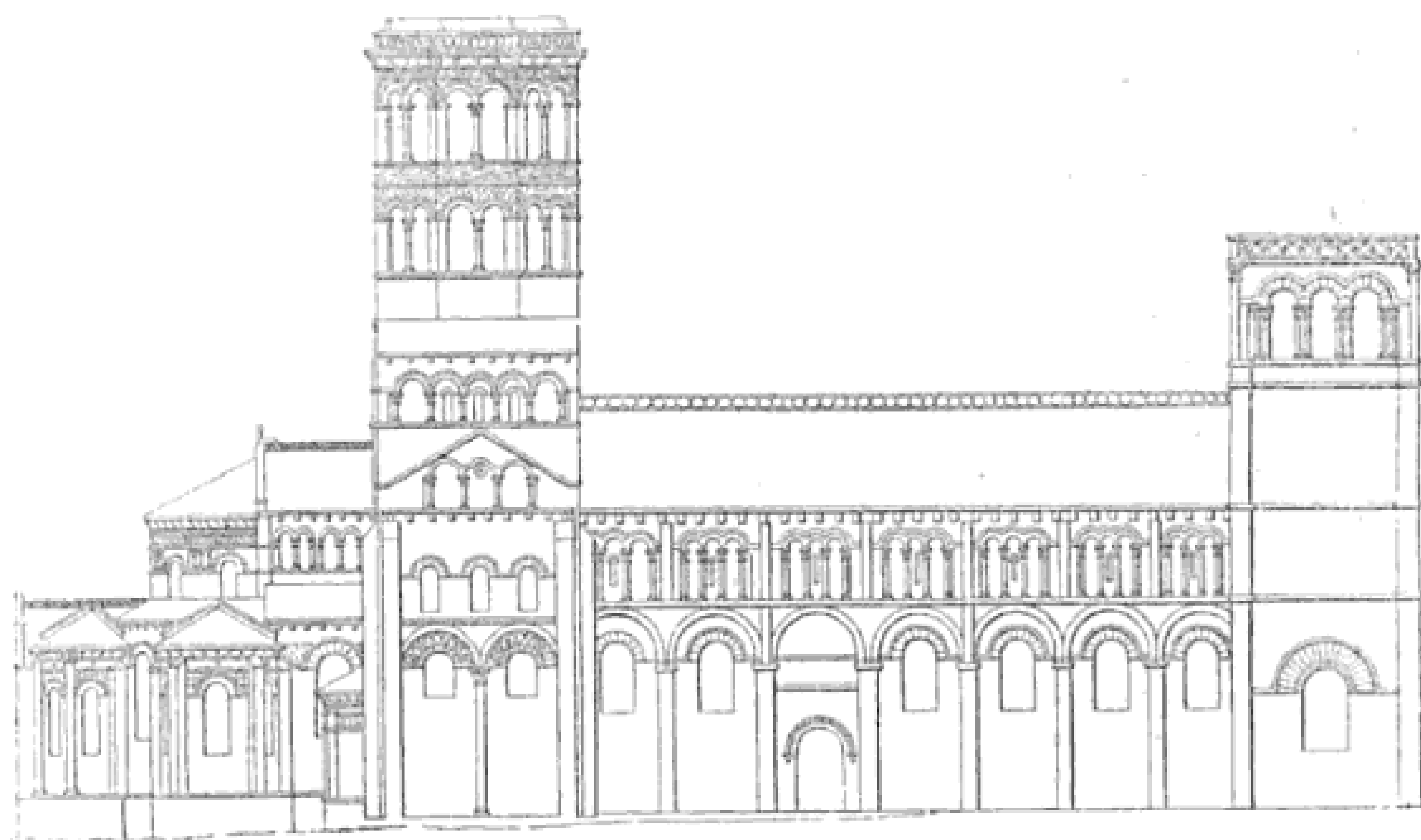
The last of the Southern provinces which requires to be distinguished is that of Auvergne, one of the most beautiful as well as one of the most complete of the round Gothic styles of France. The country in which it is found is as distinctly marked out as the style, for no naturalist can cross the frontier of the territory without at once being struck by the strange character of its scenery. It is a purely volcanic country, to which the recently extinguished craters impart a character not found in any other province of France. Whether its inhabitants are of a different race from their neighbours, has not yet been investigated. At all events, they retain their original characteristics less changed than any other people inhabiting the South of France. Their style of architecture is distinct, and early reached a degree of perfection which no other in France had then attained, and which has more resemblance than we have hitherto found in France to the Lombard and Rhenish architecture. The other styles of Southern France, whatever their beauties may be, certainly never attained to that degree of independent completeness which enables us to class that of Auvergne among the perfected styles of Europe.



511. Church at Issoire. From Mallay. Scale 100 ft. to 1 in.

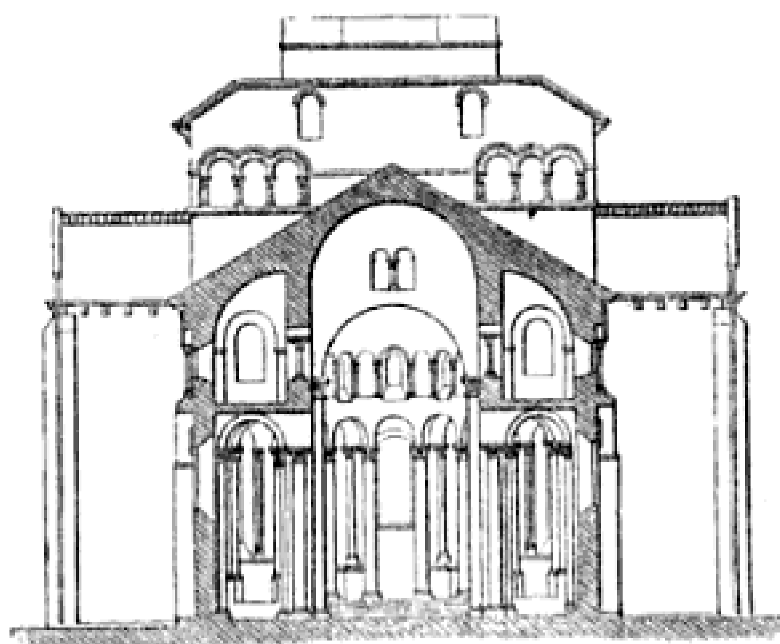
In the department of Puy de Dôme there are at least four churches of the typical form of this style, which have been edited by M. Mallay—those of Issoire, of N. D. du Port at Clermont, of Orcival, and of St. Nectaire—which only differ from one another in size, and in the arrangement of their apsidal chapels; that of Issoire having a square central chapel inserted which is wanting at Clermont and Orcival, while St. Nectaire has only three instead of four.

The largest of these is that of Issoire, of which a plan is here given, from which it will be seen that even it is small, though beautifully arranged. The transepts are just sufficiently developed to give expression to the exterior, and to separate the nave from the choir, which are beautifully proportioned to one another.



512. Elevation of Church at Issoire. From Mallay. Scale 50 feet to 1 inch.

They all possess central towers, raised on a mass of masonry extending to the whole width of the church, which gives them a breadth of base found in no other style. The want of this is painfully felt in most of our own central spires, all which need something more to stand upon than the central roof, out of which they seem to grow; but I do not know that the difficulty was ever attempted to be remedied anywhere but in Auvergne. They were intended to have western towers, the massive foundations for which are found in every example, though I believe that there is no instance in which these exist in a complete state.



513. Section of Church at Issoire, looking East. From Mallay. Scale 50 feet to 1 inch.

The side aisles are always covered by intersecting vaults, but that of the nave is always a simple tunnel vault, as in the Southern styles, ornamented by occasional transverse ribs, and in the church at Issoire slightly pointed.

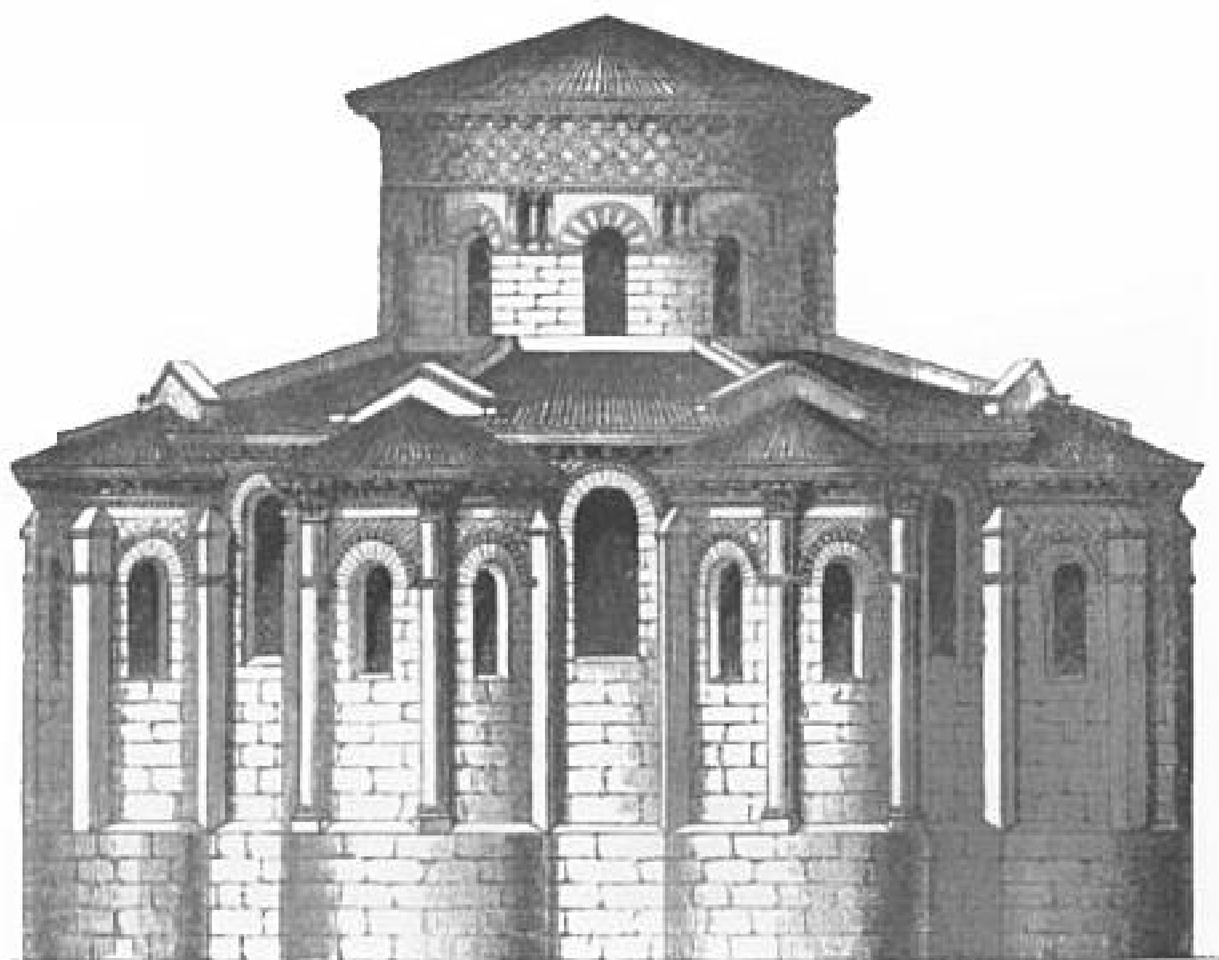
To support this great vault, a semi-vault is carried over the side aisles—as shown in the section—forming a massive and perfect abutment to the thrust of the great arch; besides, as before pointed out, rendering the vault independent of a wooden covering, which, though now in some instances supplied, was certainly not originally intended. The defect of this arrangement is of course evident, as compared with

the Northern styles, inasmuch as a clerestory was impossible, and the only effective light that could be admitted was through the side aisles. These churches, however, have an approach to a clerestory not found in that at Fontifroide, before quoted, in having a triforium or range of arches opening into the gallery, which gave a lightness of character to the superstructure, and admitted to a certain extent a borrowed light.

Externally, the projection of the buttresses is slight, and they are connected by arches, struck from the same centres as the windows, above which three small arches relieve and ornament the upper part of the nave. The central arch of these is pierced with the small window which lights the upper gallery. Above this is a cornice of more elegance and of greater projection than is usually found in churches of this age.

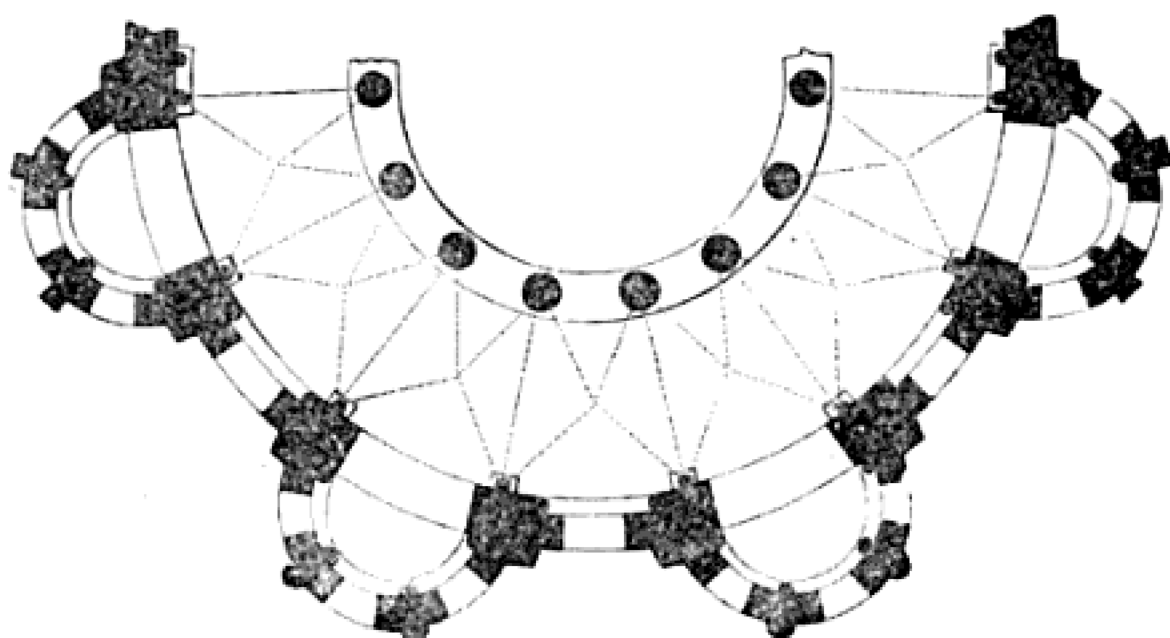
The most beautiful and most admired feature of the style is the arrangement of the chapels of the chevet externally.

In the view given above of St. Saturnin, Toulouse (woodcut No. 497), indeed in almost all the churches of that style, it will be observed how awkwardly these chapels are stuck on as if afterthoughts, without following any of the main lines of the building. Here, however, all the parts are pleasingly subordinated one to the other, and the whole so grouped as to form a design equal, if not superior, to the galleried apses of the German and Lombard churches. The place of these galleries is here supplied by a mosaic decoration formed with the different coloured lavas of the extinct volcanos of the district, which gives not only a pleasing local character to the style, but is interesting as the only specimen of external polychromatic decoration now to be found so far to the North. In effect, this is perhaps hardly equal to the open galleries of the German churches; but the expense must have been considerably



514. Elevation of Chevet, Notre Dame de Puy From Chapuy. No scale.

less, and the variety of the outline of the chevet arrangement, as compared with the simple apse, gives to these churches some advantages over the contemporary buildings on the Rhine. Indeed, as far as external decoration is concerned, it may be questioned whether the French ever surpassed these; and were they carried out on the same scale as those of Amiens and Chartres, I am convinced they would be thought more beautiful. It is true the flying buttresses and pinnacles of the pointed style enabled the architects to introduce far larger windows and gorgeous decorations of painted glass, and so to improve the internal effect of their churches to an immense extent; but this was done at the sacrifice of much external simplicity of outline and propriety of effect, which we cannot but lament could not be reconciled with the requisite internal arrangements.



515. Plan of Chevet, Notre Dame de Puy. From Chapuy. No scale.

The age of these churches is not very well ascertained. M. Mallay is inclined to place them principally in the 10th century, though the pointed form of the vault at Issoire induces him to bring that down to the 12th century; but we have seen enough to know that such a pointed form, on the contrary, is more likely to be ancient than the rounded one, which requires better construction, although in that age it was thought more beautiful. My own impression is, that they belong generally to the 11th century, though some were no doubt commenced in the 10th, and probably continued to the 12th; but their uniformity of style is such, that not more than one century could have elapsed between the first and the last. Only one circular church, so far as I know, is found in the district. It is a sepulchral chapel in the cemetery at Chambon, small in size, being only 26 ft. wide over all, but elegant in its proportions, and showing the same style of decoration as the apses of the larger churches.

The cathedral of Puy en Veley is one of the finest and most interesting churches in this part of France, but unfortunately it has not been fully described. From a careful elevation of the south transept, published at Toulouse, it would appear, as far at least as the decoration is concerned, to belong to the style of Auvergne; but if M. Maurice's description is correct, it is one of the largest of the cupola churches,

having eight domes from the entrance to the eastern termination, which is square and without side aisles. This building altogether must present peculiarities well worthy of study, but regarding these it is dangerous to speak without more information than is now attainable.



516. Fortified Church at Royat. From Gailhabaud.

Among the exceptional churches of this district, one of the most interesting is that of Royat, illustrated in woodcut No. 516, being a specimen of a fortified church, such as are sometimes, though not frequently, found in France. That at Maguelonne, quoted above (p. 606), is another, and there are several others in the South of France; but none probably either so complete or showing so many castellated features as this. In its ruined state we lose the western, or possibly the central tower, which might have somewhat restored its ecclesiastical character; but even as it is, it is a singularly picturesque and expressive building, though it speaks more of war and bloodshed than of peace and goodwill to all men.

CHAPTER V.

FRANKISH STYLE.

CONTENTS.

Exceptional buildings — Basse Œuvre, Beauvais — Decoration.

NORTHERN PROVINCE.

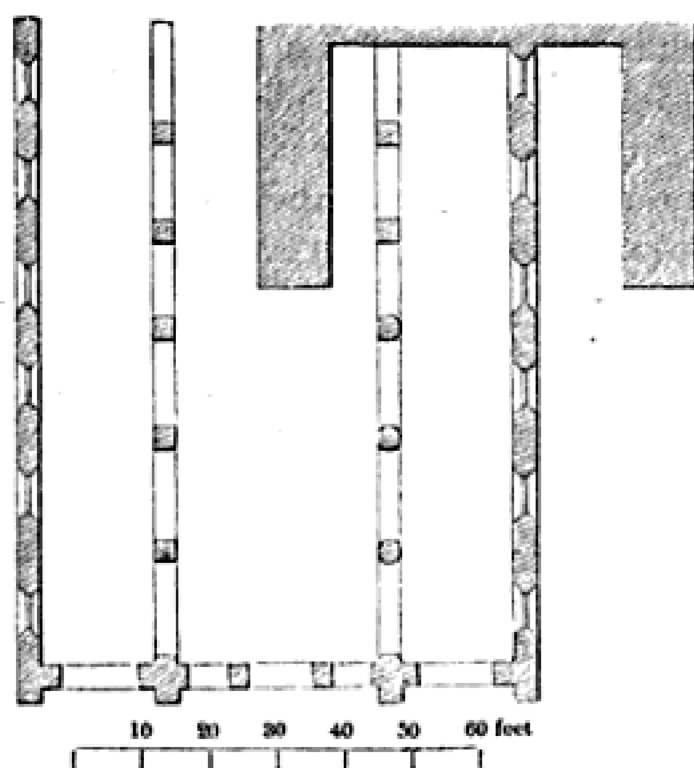
THE architecture of the Northern division of France is certainly the most interesting subject in the whole history of the Mediæval styles. This subject comprehends the origin and progress of that style of pointed architecture which in the 13th century extended from Paris as a centre to the remotest corners of Europe, pervading the whole of Germany, Britain, and even Spain and Italy. In these countries it probably obliterated their own peculiar styles, and usurped their places, so as to become the Gothic style *par eminence*, and the only one generally understood under that name. It has gained this distinction, not perhaps so much from any inherent merit of its own, as because it was the only one of all the Mediæval styles which was carried beyond the simple rudiments of the art, and enjoyed the advantage of being carried out by a powerful and united people who had advanced beyond the first elements of civilized society. It is needless now to inquire whether the other styles might not have been made as perfect, or more so, had the same amount of talent and of time been bestowed upon them. All we can say is, that no other style was so carried out, and it is impossible that it should now be attempted, while the pointed Gothic had the opportunity which the others were deprived of, and became the style of Europe during the middle ages. Its history is, therefore, that to which attention must always be principally directed, and from which all lessons and all satisfactory reasoning on the subject must be principally derived.

The three great divisions into which the early history of the style naturally divides itself have already been pointed out. I have called the central province Frankia, whence in the middle of the 12th century the pointed style issued, with the two great subordinate divisions of Normandy on the one hand, and Burgundy on the other. In Normandy a warlike race had raised themselves to power, and with an inconsistency characteristic of their state of civilization devoted to sacred purposes the wealth they had acquired by rapine and plunder, covering their province with churches, and perfecting a rude style of architecture singularly expressive of their bold and energetic character.

In Burgundy both the style and its history differed considerably from this. From some cause which has not yet been explained, this country became early the favourite resort of hermits and of holy men, who founded here the great monastic establishments that spread their influence not only over France, but over the whole of Europe, influencing to an immense extent all the relations of European society in the middle ages. The culminating epoch of the architecture of Normandy and Burgundy was the 11th century. In the 12th, the monarchial sway of the central province was beginning to be felt in them. In the 13th it superseded the local character of both, and gradually fused them with the whole of France into one great and singularly uniform monarchy.

Latin Style.[1]

Before proceeding to describe the local forms of architecture in these provinces it is necessary to say a few words regarding a class of buildings which have not hitherto been mentioned, but which must not be passed over. These cannot be included in any other style, and are so nearly devoid of architectural features, properly so called, that they might have been omitted but for one consideration. They bear so remarkable a resemblance to the earliest Christian churches of Rome on the one hand, and to the true Gothic on the other, that we cannot doubt their being the channel through which the latter was derived from the former. They are the oldest churches in Northern France, which confirms the above view.

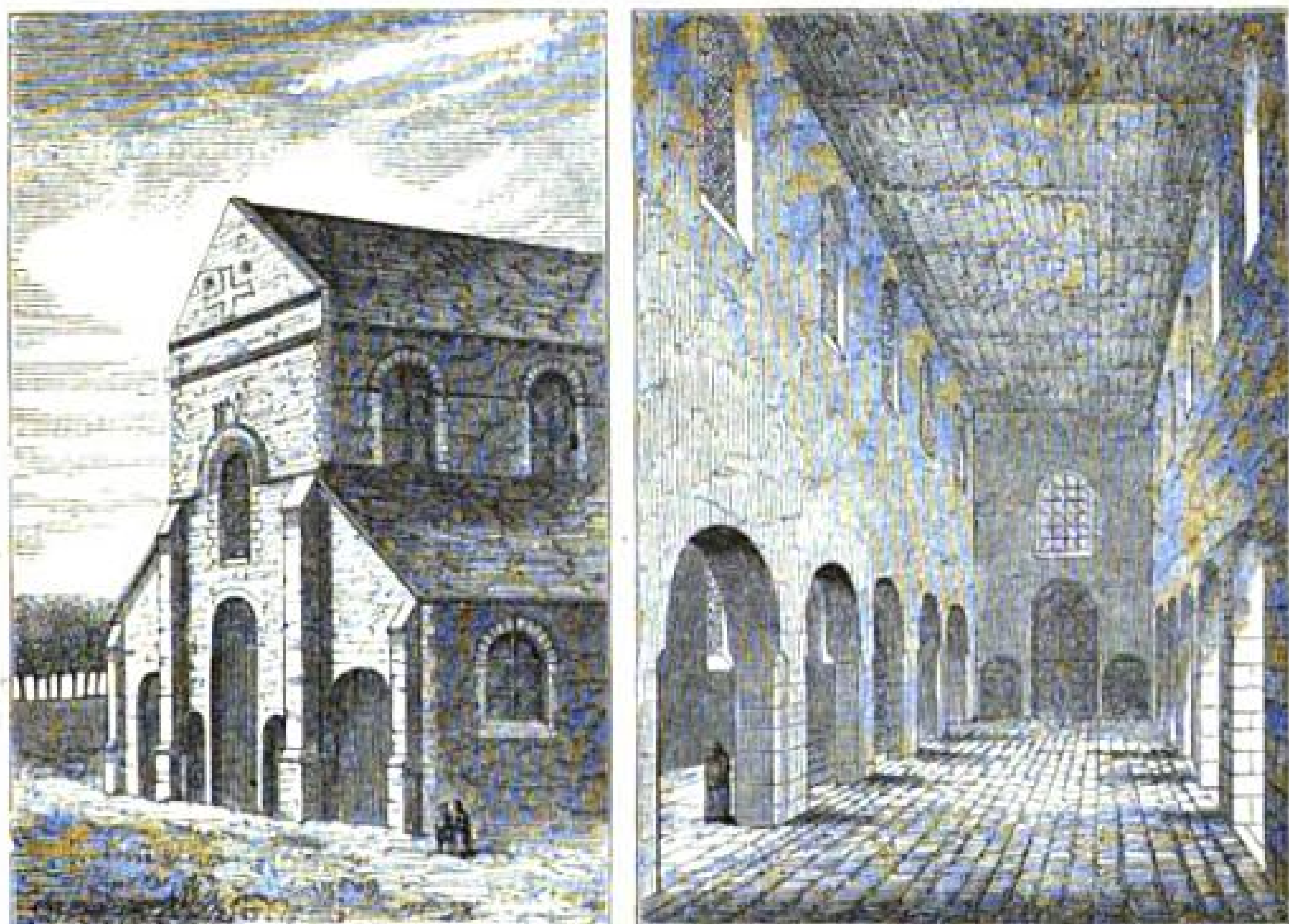


517. Plan and Section of Basse Œuvre, Beauvais. From Woillez, Monumens Religieux de Beauvais.

The character of this style will be understood from the plan and internal and external view of its typical example, the Basse Œuvre at Beauvais (woodcuts Nos. 517 and 518). It will be seen that this building consists of a nave and side aisles, separated from each other by a range of plain arches resting on piers without either bases or capitals; on one side the angles are cut off, so as to give a slightly ornamental character; on the other they are

[1] "Style Latin" is the name generally adopted for this style by the French architects.

left square. The central aisle is twice the width, and more than twice the height, of the lateral aisles, and has a well-defined clerestory; the roof, both of the central and side aisles, is a flat ceiling of wood. The eastern end has been destroyed, but, judging from other examples, it probably consisted of 3 apses, one large in the centre and a smaller one at the end of each aisle.



518. External and Internal View of Basse Œuvre. From Woillez.

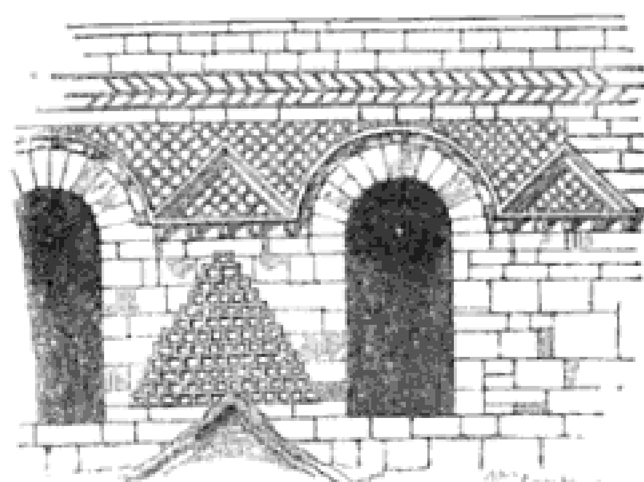
The similarity of the form of this church to the Roman basilicas will be evident in referring to the representations of those buildings, more especially that of St. Vincenzo alle tre fontane (woodcut No. 372), though the details have nothing in common except the use of flat tiles between the cornices of the arches, which is singularly characteristic of Roman masonry. The points in which this is evidently the source of some important peculiarities of the true Gothic are the subordination of the side aisles to the central one, and the perfectly developed clerestory. These are not found in any of the styles of France hitherto described.

Eventually, as we shall shortly see, the interior ceiling of Gothic vaults came to be of stone, protected externally by a wooden roof. This stone vault was not, I believe, attempted before the 11th century. In the meanwhile wooden-roofed churches, like that at Beauvais, seem to have been usual and prevalent all over the north of France, though, as may be supposed, both from the smallness of their size and the perishable nature of their materials, most of them have been either superseded by larger structures, or have been destroyed by fire or the accidents of time.

M. Woillez describes five or six as existing still in the diocese of Beauvais, and varying from the 6th or 7th century, which probably is

the date of the Basse Œuvre, to the beginning of the 11th century; and if other districts were carefully examined, others might be found. Normandy must perhaps be excepted, where the rude Northmen seem first to have destroyed all the churches, and afterwards to have rebuilt them with a magnificence they did not before possess.

Churches of the same class, or others at least extremely similar to them, as far as we can judge from such representations as have been published, exist even beyond the Loire. There is one at Savonières in Anjou, and a still more curious one at St. Généreux in Vienne, not far from Poitiers, which shows in great perfection a style of decoration by triangular pediments and a peculiar sort of mosaic in brick-work.



519. Decoration of St. Généreux. From Gailhabaud.

The same style of decoration is carried out in the old church of St. Jean at Poitiers, which probably is even older than the Basse Œuvre of Beauvais. The old church, which now forms the ante-church to St. Front at Perigeux, seems also to belong to the same class; but, if M. Félix de Verneilh's restoration is to be trusted, it approaches nearer to a Romanesque style than any other of its class, of which it may nevertheless possibly be the most southern example.

It is only very recently that the attention of French archæologists has been turned to these rude primordial churches of France, and consequently our knowledge of them is as yet very limited.

CHAPTER VI.

NORMANDY.

CONTENTS.

Churches at Caen — Gothic vaulting — Bayeux.

WITH one or two slight exceptions, the whole history of the Round-arched Norman Gothic is comprehended within a period of less than a century. No building in this style is known to have been even commenced before the year 1050, and before 1150 the pointed style had superseded it. Indeed, practically speaking, all the great and typical examples are crowded into the last 50 years of the 11th century. This was a period of great excitement and prosperity with the Northmen, who, having at last settled themselves in this fertile province, not only placed their dukes on an equality with any of the powers then existing in France, but by their conquest of England raised their chief to an importance and a rank superior to that of any other potentate in Europe except the German emperors of that day, with whom in fact they were, both by race and policy, more closely allied than they were with the people among whom they had settled.

There are two exceptional churches in Normandy which should not be passed over in silence: one is a little triapsal oratory at St. Wandrille; the other a similar but somewhat more important church at Querqueville, near Cherbourg, on the coast of Brittany. Both are rude and simple in the outline and ornaments, built with that curious herring-bone or diagonal masonry indicative of great age, and differing in every essential respect from the works of the Normans when they came into possession of the province. Indeed, like the transitional churches last described, these must be considered as the religious edifices of the



520. Triapsal Church at Querqueville. From Dawson Turner's Normandy.

inhabitants before that invasion; and if they show any affinity with any other style, it is to Belgium and Germany we must look for it rather than anywhere else within the boundaries of France.

Among the oldest-looking buildings of pure Norman architecture is the church of Léry, near Pont de l'Arche. It is the only one, so far as I know, with a simple tunnel-vault, and this is so massive, and rests on piers of such unusual solidity, as to give it an appearance of immense antiquity. There is no good reason, however, for believing that it really is older than the chapel of the Tower of London, which it resembles in most respects, though the latter is of somewhat lighter architecture.

Passing from this we come to a series of at least five important churches, all erected in the latter half of the 11th century. The first of these is the church of Jumièges, the western end of which was principally erected by Robert, afterwards Bishop of London, and finally Archbishop of Canterbury. Its precise date is not very well known, though it probably was begun before 1050, and certainly shows a far ruder and less complete style of architecture than any of the later churches. The nave apparently never was even intended to be vaulted; yet the walls and piers are far more massive than those of the churches of Caen, or that of Bocherville in its immediate neighbourhood. This last we know to have been commenced in the year 1050, and completed 1066. This church still retains in a wonderful state of completeness all the features of a Norman church of that age—the only part of a more modern date being the two western turrets, which are at least a century later.

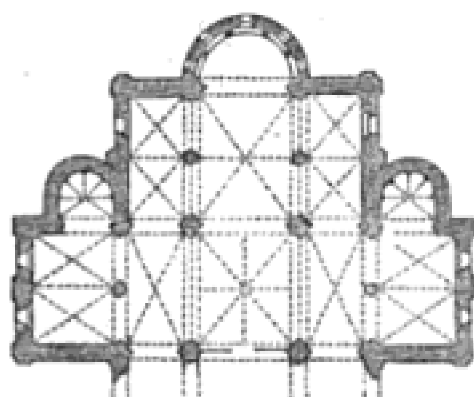


Fig. 1.

The next of the series is the well-known Abbaye aux Hommes, or St. Stephen's, at Caen, commenced by William the Conqueror, 1066, in gratitude for his victory at Hastings, and dedicated 11 years afterwards. Then follow the sister church of the Trinité, or Abbaye aux Dames, commenced in 1083, and the parish church of St. Nicolas at Caen, begun in the following year. These two last were almost certainly completed within the limits of the 11th century.

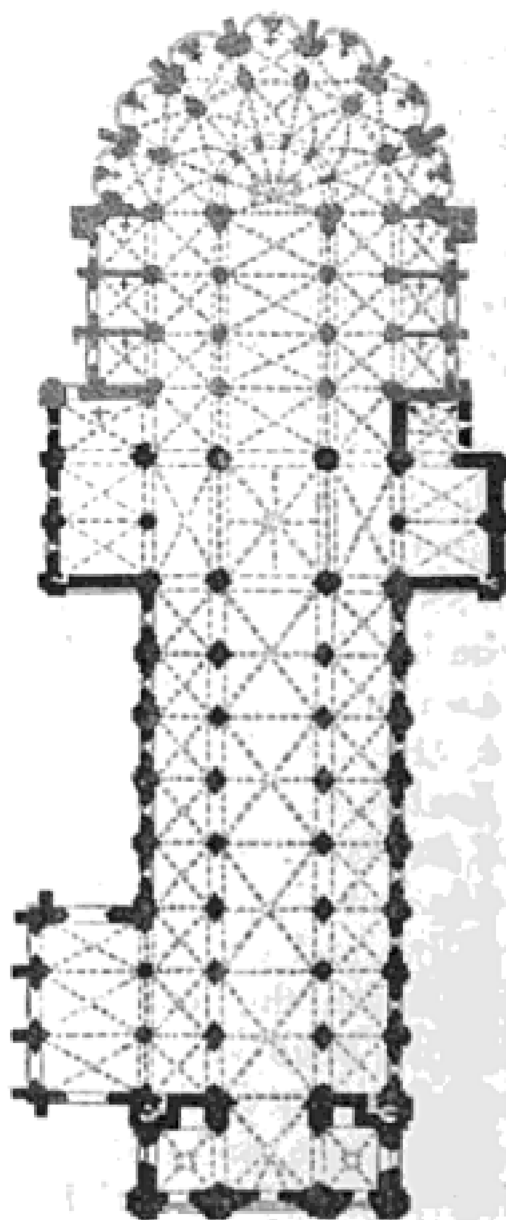
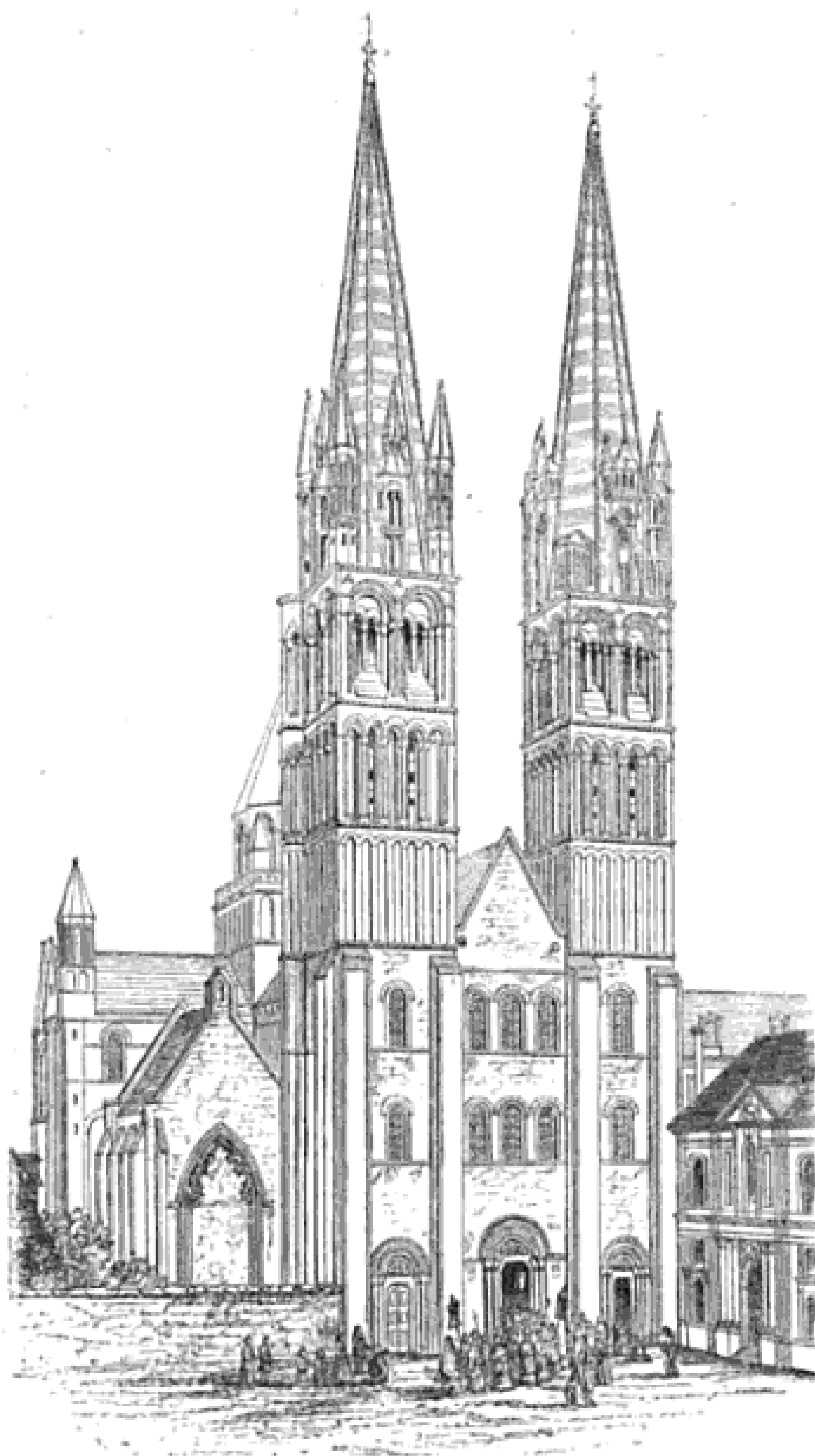


Fig. 2.

521. Plan of the Church of St. Stephen, Caen. From Ramée, Histoire de l'Architecture. Scale 100 ft. to 1 in.

Of all these the finest is St. Stephen's, which is a first-class church,

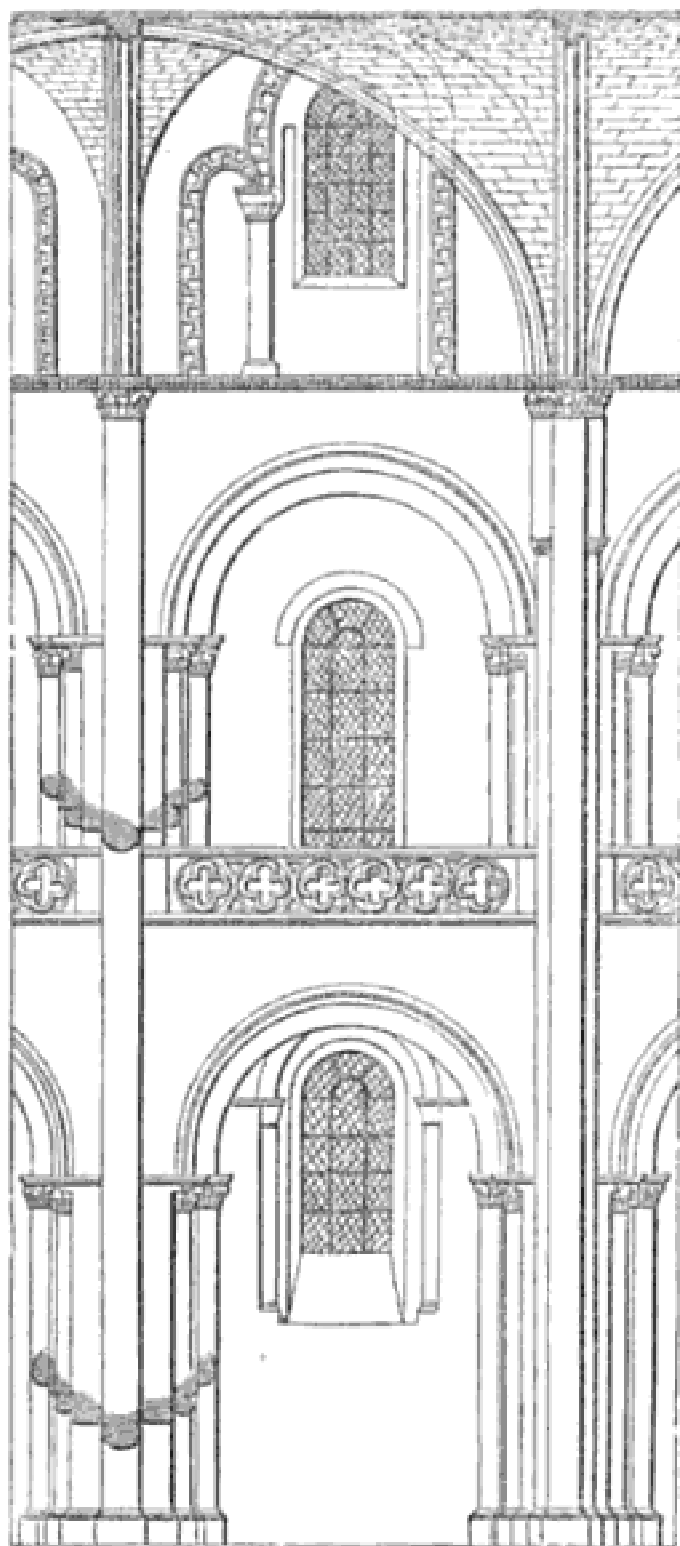
its extreme length being 364 ft. It was not originally so long, being terminated by an apse, as shown in the plan, which was superseded about a century afterwards by a chevet, as shown Fig. 2. This, however, was an innovation—all the round Gothic churches in Normandy having apses, nor do I know of a single instance of a chevet in the province. This circumstance points rather to Germany than to the south of France for the origin of the Norman style—indeed all the arrangements of this church are more like those of the Rhenish basilicas, that of Spires for example (woodcut No. 449), than any of those churches we have hitherto found within the limits of France itself. This is more remarkable at Jumièges than even here. None of them, however, have two apses, nor are lateral entrances at all in use; on the contrary, the western end, or that opposite the altar, is always, as in the true basilica, the principal entrance. In Normandy we generally find this flanked by two towers, which give it a dignity and importance not found in any of those styles we have been examining. These western towers afterwards in France became the most important features of the external architecture of churches. It is by no means clear whence they were derived. They are certainly neither Italian nor German, nor do they belong to any of those styles of the southern provinces of France which we have been describing. The churches of Auvergne are those which perhaps show the nearest approach to them.



522. Western Façade of St. Stephen, Caen. From Pugin and Britton's Normandy.

On the whole it appears most probable that the western fronts of the Norman churches were taken from the façades of Germany, and

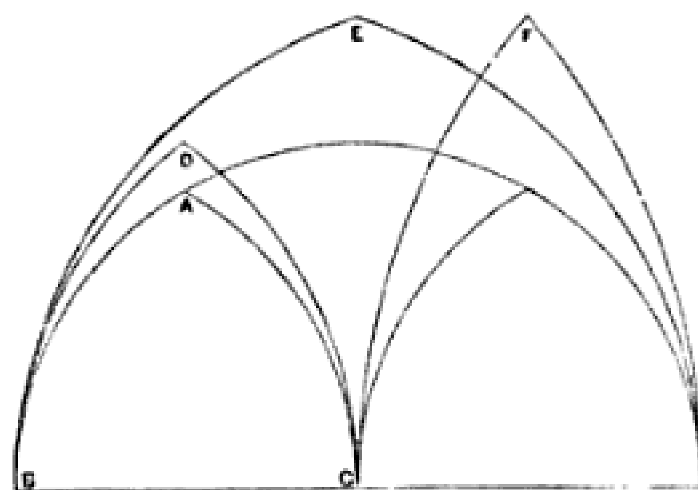
the towers added to give dignity to them. As will be seen from the view (woodcut No. 522), in St. Stephen's at Caen the feature is well marked and defined; for though the spires were apparently added at the same time as the chevet, the towers which support them evidently belong to the original design. This may be regarded as the prototype of the façades of nearly all the Gothic cathedrals of France. These western towers eventually superseded the attempt to raise the principal external feature of the churches on the intersection of the nave with the transepts, as had been attempted in the South, and made the western front the most important part, not only in decoration, but in actual height. Here and throughout the north of France, with the exception of the churches at Rouen, the central tower is low and comparatively insignificant, scarcely even aspiring to group with those of the western façade.



523. Elevation of Compartment of Nave of St. Stephen, Caen. From Pugin.

The arrangement of the internal compartments of the nave of this church will be understood from the elevation (woodcut No. 523), where it will be seen that the aisles are low, and above them runs a great gallery, a feature common in Italy, but rare in Germany. Its introduction may have arisen either from a desire for increased accommodation, or merely to obtain height, as it is evident that an arch the whole height of the side aisles and gallery would be singularly narrow and awkward. This was one of those difficulties which were only got over by the introduction of the pointed arch; but which, whenever attempted in the circular style, led to very unpleasing and stilted effects. It may however be, that it was suggested by the abutting galleries we find so frequently used in Southern churches. Be this as it may, the two stories of the aisles fill up the height far more pleasingly than could be done by one, and bring an abutment up to the very springing of the main vault of the nave. Here another difficulty met the architect, which was only got over effectually by the use of the pointed arch, and was perhaps, if not the only, at least the principal cause of its general introduction. It was this: that an intersecting

circular vault only fits a square compartment without stilting or skewing, or using some other contrivance to get over the difficulty. In the side aisles the compartments were practically always square, so that there was no difficulty in them. The nave was, generally speaking, twice the width of the aisles, so that there also square compartments might have been obtained, simply by making every compartment consist of two bays. This is what the Romans would have done, but such an expedient would have involved considerable difficulties. The span of the vaults raised over such compartments would have been large and difficult to support, and great awkwardness would have arisen from the total omission of every alternate pier from the design of the roof. These difficulties were met by a compromise. The general design of the roof was in squares, like that of the aisles; but a sort of auxiliary central arch was carried up from the intermediate piers to the roof, thus bringing these piers into the design of the nave, and assigning to them a certain amount of the support of the vault, as shown in the central aisle of the nave (woodcut No. 523), whereas the choir of the same church shows the quadripartite arrangement, which afterwards became universal.[1] This insertion was neither quite a rib, nor quite a compartment of a vault, but something between the two; and in spite of all the ingenuity bestowed upon it in Germany, France, and England, in the 11th and beginning of the 12th centuries, never produced an entirely satisfactory effect, till at last the pointed arch came to the rescue. It is easy to see from the annexed diagram how the introduction of the pointed arch obviated the difficulty. In the first place, supposing the great vault to remain circular, two segments of the same circle, A B, A C, carry the intersecting vault nearly to the height of the transverse one, or it could as easily be carried to the same height as at D. When both were pointed, as at E and F, it was easy to make their relative heights anything the architect chose, without any forcing or introducing any disagreeable curves. By this means the compartments of the vaults of the central nave were made the same width as those of the side aisles, whatever their span might be, and every compartment or bay was a complete design in itself, without reference to those next to it on either side.



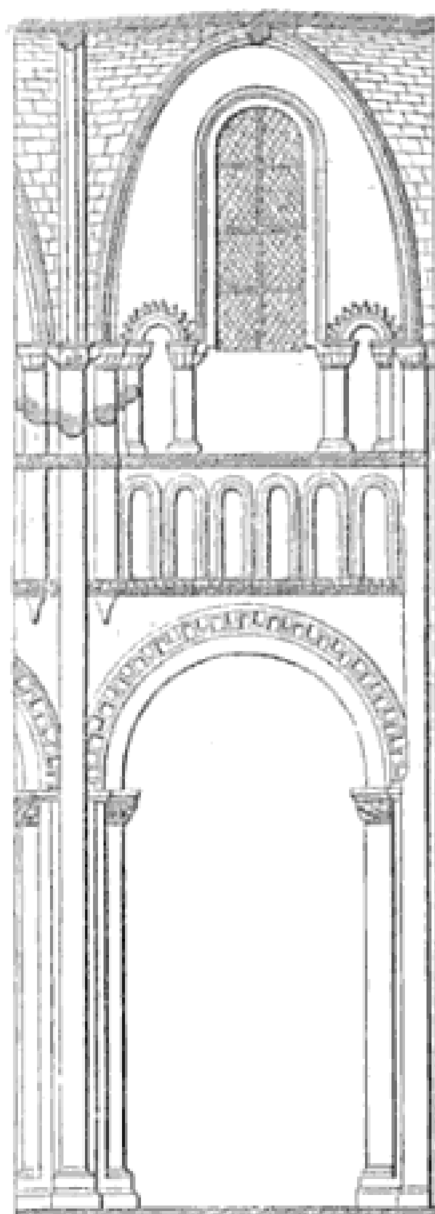
524. Diagram of Vaulting.

But this is anticipating: the form of the hexapartite vault will be

[1] This arrangement is known by the name of *hexapartite*, or *sexapartite*, because the compartment of the vault having been divided into four by the great diagonal arches crossing one another in the centre (which was the *quadripartite* arrangement), two of the four quarters were again divided by the arch thrown across from one intermediate pillar to the other, thus making six divisions in all, though no longer all of equal dimensions, as in the quadripartite method. Both these arrangements are shown in plan on woodcut No. 521.

easily understood from the woodcut No. 523, which also shows its defects, which the architect has at St. Stephen's tried to get over by a sort of addition to one side of his triforium windows; which however makes its one-sidedness even more apparent.

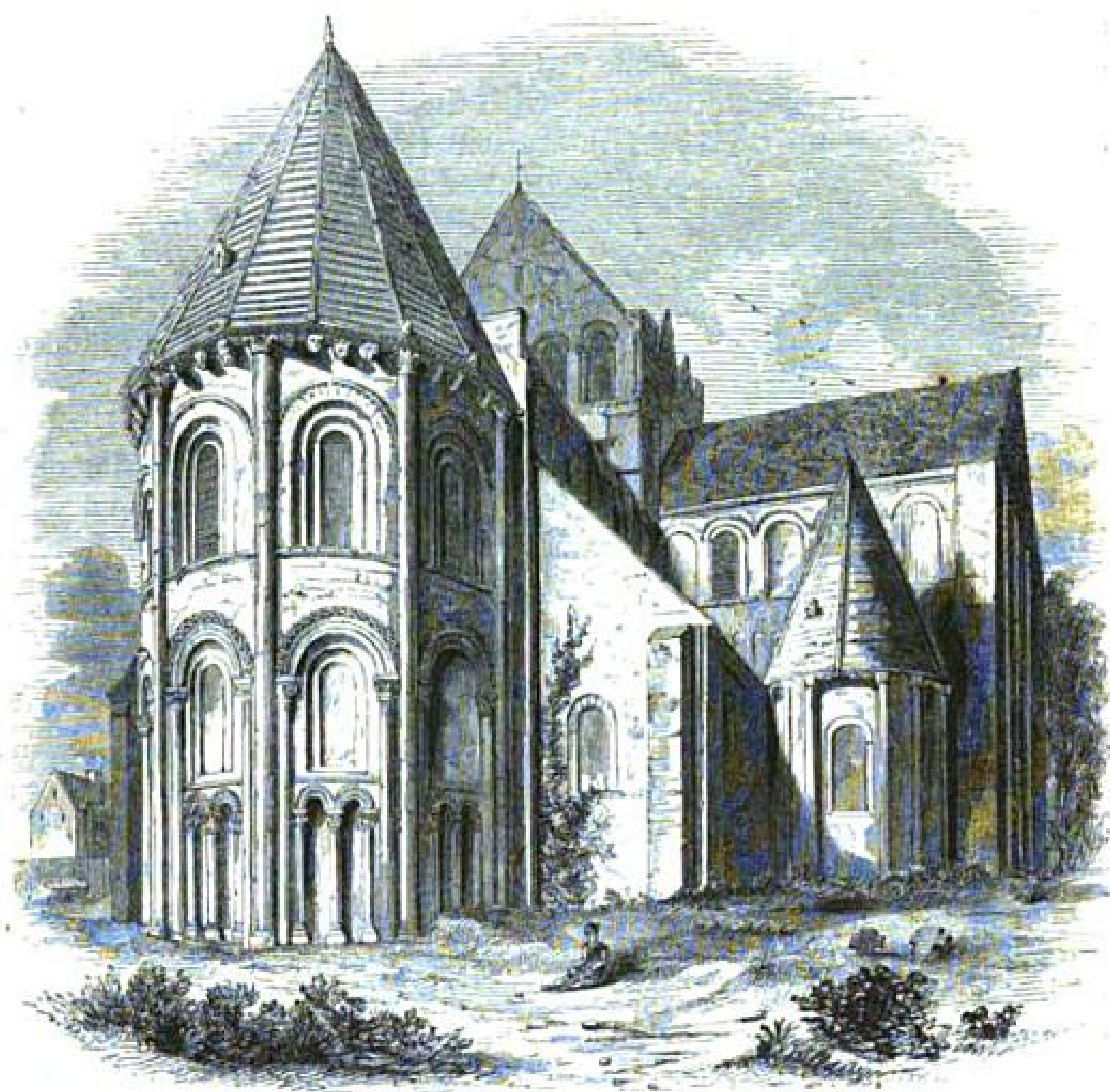
During the twenty or thirty years that elapsed between the building of St. Stephen's church and that of the Abbaye aux Dames, immense progress seems to have been made towards the new style, as will be seen from the annexed elevation of one compartment of the nave of the latter. The great gallery is omitted, the side aisles made higher, the piers lighter and more ornamental. The triforium is a mere passage under the upper windows, and so managed as not to intercept their light from any part of the church. Even the vaulting, though in some parts hexapartite, in others shows a great approach to the quadripartite vaulting of the subsequent age; this, however, is obtained by bringing down the main vault to the level of the side vault, not by raising the side arches to the level of the central, as was afterwards done. The greatest change is in the richness and elegance of the details, which shows great progress towards the more ornamental style that soon afterwards came into use.



525. Compartment, Abbaye des Dames, Caen. From Pugin.

The parochial church of St. Nicolas is naturally plainer than either of these royal abbeys. It shows considerable progress in construction, and deserves far more attention than it has hitherto met with. It is the only church, so far as I know, in Normandy, that retains the original external covering of its apse. This consists, as shown in the woodcut (No. 526), of a high pyramidal roof of stone, following to the eastward the polygonal form of the apse, and extending one bay towards the west. From an examination of the central tower, it is clear that this was not the original pitch of the roof of the church. This was nearly as low in all Norman churches as in those of Auvergne. Here it was a sort of semi-spire placed over an altar, to mark externally the importance of the part of the church beneath it. In appearance it is identical with the polygonal cones at Loches, mentioned before. At Bourges, and elsewhere in France, similar cones are found over chapels and altars; but in most instances they have been removed, probably from some defect in construction, or from their not harmonizing with the wooden roofs of the rest of the church. They were in fact the originals of the spires which afterwards became so much in vogue, and as such their history would be interesting, if properly inquired into.

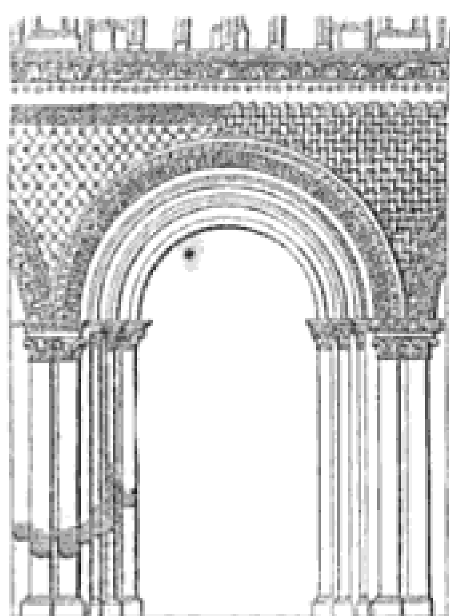
The cathedral of Bayeux, as now standing, is considerably more



526. East End of St. Nicolas, Caen. From Dawson Turner's Normandy.

modern than either of these; no part remaining of the church of Odo, the brother of the Conqueror, except the lower part of the western towers, and a crypt, which is still older. The pier arches of the nave belong to the first half of the 12th century, the rest of the church to the rebuilding, which was commenced 1157, after the town had been burnt, and the cathedral considerably damaged, by the soldiers of Henry I. At this time the apse was removed to make way for a chevet, which is one of the most beautiful specimens of early pointed Gothic to be found in France, and far surpasses its rival in the Abbaye aux Hommes at Caen. In the church at Caen, the alteration was probably made to receive the tomb of the Conqueror, when that veneration began to be shown to his remains which was denied to himself when dying. Here, however, the same motive does not seem to have existed, and it is more probable that the extension was caused by the immense increase of the priesthood in the course of the 11th and 12th centuries, requiring a larger choir for their accommodation. We know from the disposition of the choir, that the nave originally had a great gallery over the side aisles, and consequently a low clerestory. But before it was rebuilt in the end of the 12th, or beginning of the 13th century, the mania for painted glass had seized on the French

architects, and all architectural propriety was sacrificed to this mode of decoration. In the present instance we cannot help contrasting the solid grandeur of the basement with the lean and attenuated forms of the superstructure, though this attenuation was carried to a much greater extent afterwards.



527. Lower Compartment, Nave, Bayeux. From Pugin.

The diapering of the spandrils of the lower arches is another feature worthy of remark, as illustrating the history of the style. Before painted glass was introduced, the walls of all churches in Northern Europe were covered with fresco or distemper paintings, as was then, and is to the present day, the case in Italy. But when coloured windows came into use, the comparative dulness of the former mode of decoration was immediately felt, and the use of colour confined to the more brilliant transparent material. It was necessary to find a substitute for the wall painting, and the most obvious expedient was that of carving on the stone the same patterns which it had been customary to paint on them. An attempt was made, indeed, to heighten the effect of this carving by inlaying the lines with coloured mastic or cement; but the process was soon found to be not only very expensive but very ineffective, and gave way afterwards to sculptured figures in traceried pannels. These ornaments easily filled up the very small spaces of wall that were not occupied either by the windows, now greatly enlarged, or the constructive supports of the building. Now, however, that colour is gone both from the walls and the windows, this diapering gives a singularly rich and pleasing effect to the architecture of the lower story, and combined with the massiveness and varied richness of the piers themselves, renders this a nearly unique specimen of a Norman arcade, and one of the most beautiful that has come down to us.

These examples are, it is hoped, sufficient to make known the general characteristics of a style which is at the same time of great interest to the English reader from its proximity to our shores, and also from its influence on our own, and is moreover comparatively so familiar as to require less illustration than many others. Besides the examples above described, many other specimens of Norman architecture might have been given, filling up the details of the series, from the rude simplicity of Jumièges to the elaborate richness of the nave of Bayeux, and showing a rapidity of progress and boldness in treating the subject hardly surpassed in the succeeding age; but still with all its developments it can only be considered as a first rude attempt to form a style of architecture which was superseded before its principles began to be understood, and lost before it had received any of those finishing touches which form the great element of beauty in all the more perfect styles.

CHAPTER VII.

BURGUNDY.

CONTENTS.

Abbeys of Tournus and Cluny — Cathedral of Autun — Church of St. Menoux.

THE causes which led to the display of architectural magnificence during the 11th and 12th centuries in the province of Burgundy were, as before remarked, widely different from those which produced the same result in Normandy. It was not in this instance that a series of brilliant conquests raised a line of princes to power, and enabled them to adorn their province with splendid churches, and other evidences of material wealth.

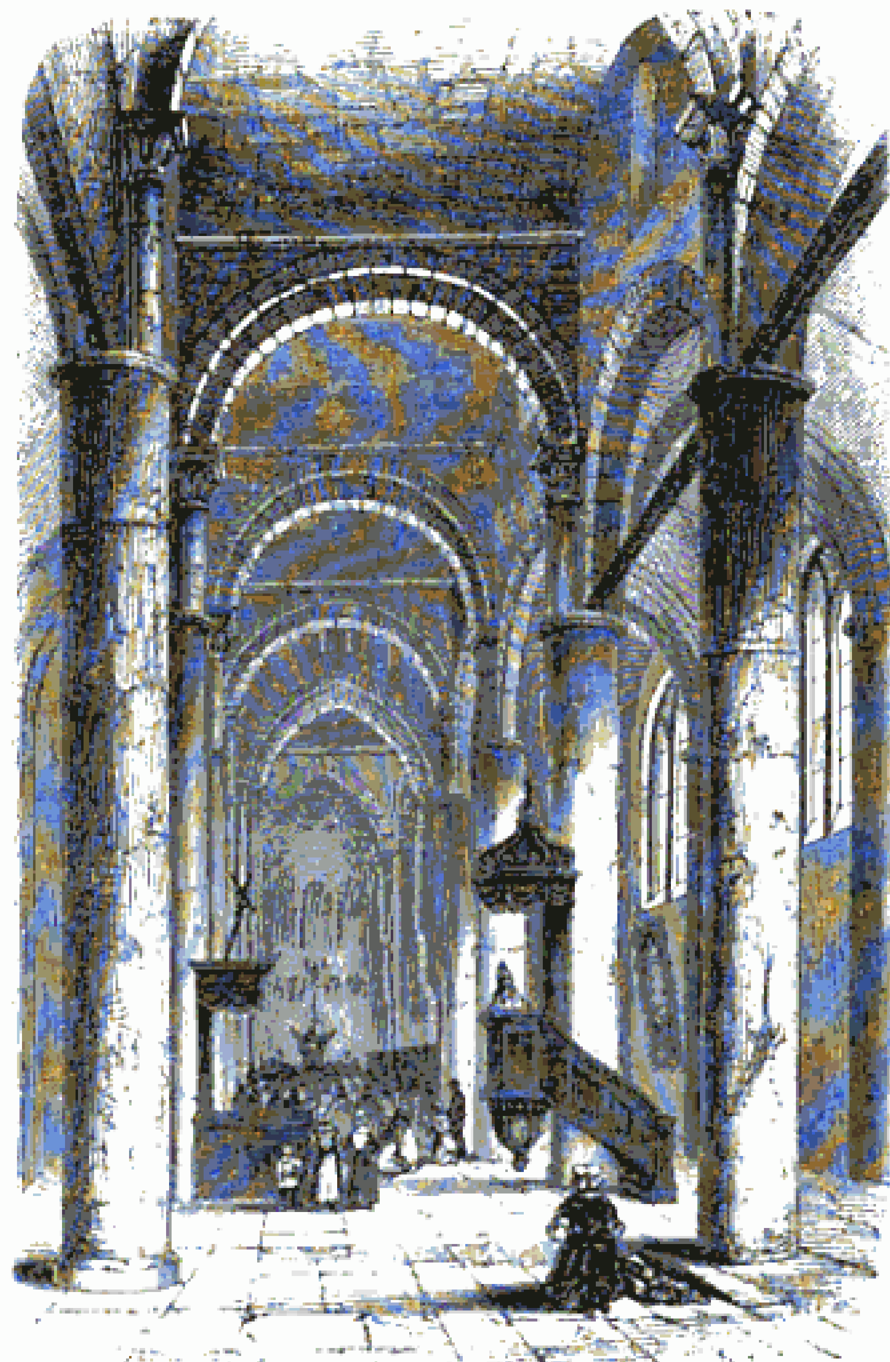
The dukes of Burgundy in this age had not yet taken that rank among their compeers to which they afterwards attained. But to make up for this, the country seems, from the time at least when St. Gall and Columban settled themselves at Luxeuil till late in the middle ages, to have been the first and principal seat of those great monastic establishments which had so overwhelming an influence on the faith and forms of those times.

Why this province should have been particularly selected for this purpose is by no means clear. We must go either to India in the flourishing period of Buddhism, or to Thibet in the present day, to find anything analogous to the monastic establishments of the 11th century in this district. All these monasteries have now passed away, and few have left even any ruins to attest their former greatness and magnificence. The great basilica of Cluny, the noblest church of the 11th century, has been wholly removed within the last sixty years. Clairvaux was first rebuilt in the style of the Renaissance, then finally swept away within the last few years. Citeaux perished earlier, and little now remains to attest its former greatness. Luxeuil is an obscure village. The destruction of the church of St. Benigne, at Dijon, has already been referred to, and it would be easy to swell the catalogue of similar consequences of the great Revolution.

Tournus still remains, and at Vezelay fragments exist. Charlier, Avallon, Autun, Langres, and Besançon, still possess in their cathedrals and churches some noble remnants of Burgundian architecture. Besides these, there are numerous parish churches and smaller edifices which would easily enable us to make up a history of the style, were they carefully examined and drawn. Burgundy is, however, a *terra ignota* to the scientific antiquary, and very little has yet been done either to describe or elucidate its architectural history,

though enough to show the principal characteristic features of the style of architecture which there prevailed.

The church of St. Benigne at Dijon, mentioned above, was one of the oldest in Burgundy, and probably an excellent type of the style of that country. But its total destruction and the insufficiency of the plates published by Dom Plancher prevent anything like a satisfactory study of it. The abbey church of Tournus is perhaps nearly as old. Its antiquity is manifested by the rudeness both of its design and execution. The nave is separated from the aisles by plain cylindrical columns without bases, the capitals of which are joined by circular arches at the height of the vaults of the aisle. From the capitals rise dwarf columns supporting arches thrown across the nave. From one of these arches to the other is thrown a tunnel vault, which thus runs the cross way of the building; being, in fact, a series of arches like those of a bridge extending the whole length of the nave. This is, I believe, the only known instance of this arrangement, and is interesting as contrasting with the longitudinal tunnel vaults so common both in this province and the South.



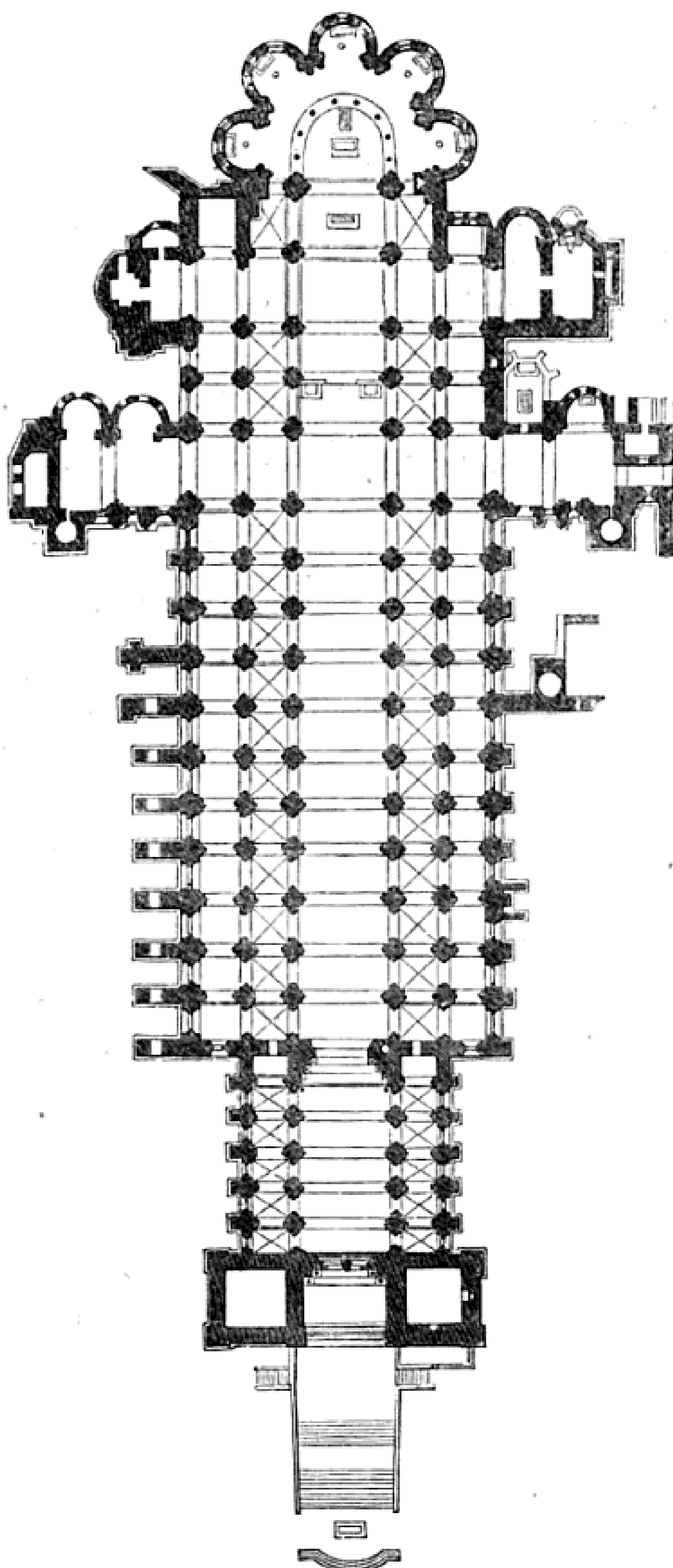
528. View of Interior of Abbey at Tournus. From Taylor and Nodier.

It is a curious instance of an experiment whose object was the getting over the difficulties which were afterwards removed by the invention of the intersecting arch. In the mean time this Tournus vault offered some advantages well worthy of consideration. The first of these was that the thrust of the vault was wholly longitudinal, so that only the supporting arches of the transverse vaults required to be abutted. These being low and in a well-defined direction were easily provided for. Another advantage was, that it allowed of a large and well-defined clerestory, which, as we have seen, was impossible with the longitudinal vaults. On the other hand, the artistic awkwardness of the plan was a fatal objection, which, instead of conducting the eye

pleasingly along the vault, offered only a succession of interruptions to the perspective.

In the nave of this church all the arches are circular; in the choir, which dates early in the 11th century, if not before, and which is perhaps older than the nave, the great transverse arches are slightly pointed, and support at the intersection a dome, which forms the most beautiful feature in the church.

The pride of Burgundy was the great abbey church of Cluny, which, with its narthex or ante-church, measured 580 ft. in length, or considerably more than any other church erected in France in any age. Its nave was throughout 37 ft. 6 in. in width, and it had double side aisles, making the total internal width 120 ft., and the whole area covered by it was upwards of 70,000 ft. Nor do even these colossal dimensions convey an adequate idea of its magnificence. The style throughout was solid and grand, and it must have possessed a

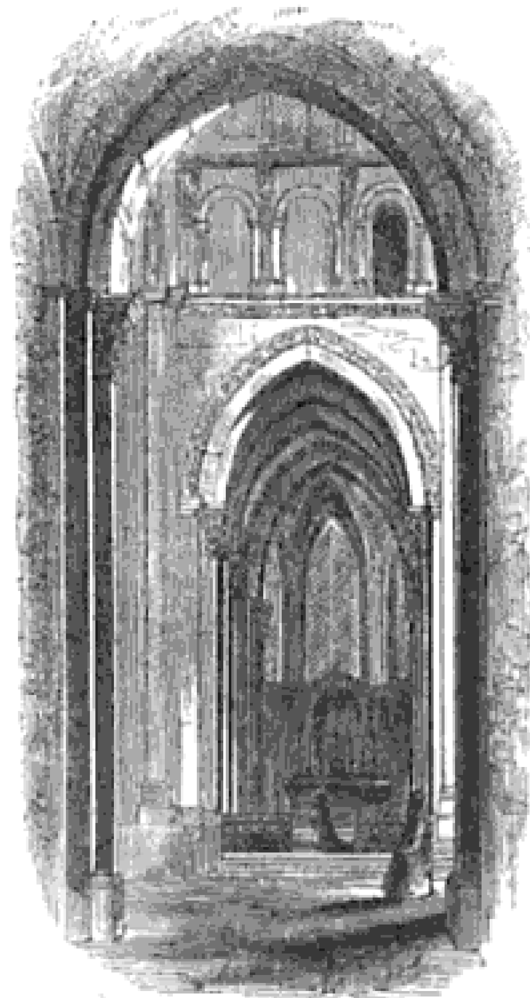


529. Plan of Abbey Church at Cluny. From Lorain's Histoire de l'Abbaye. Scale 100 ft. to 1 in.

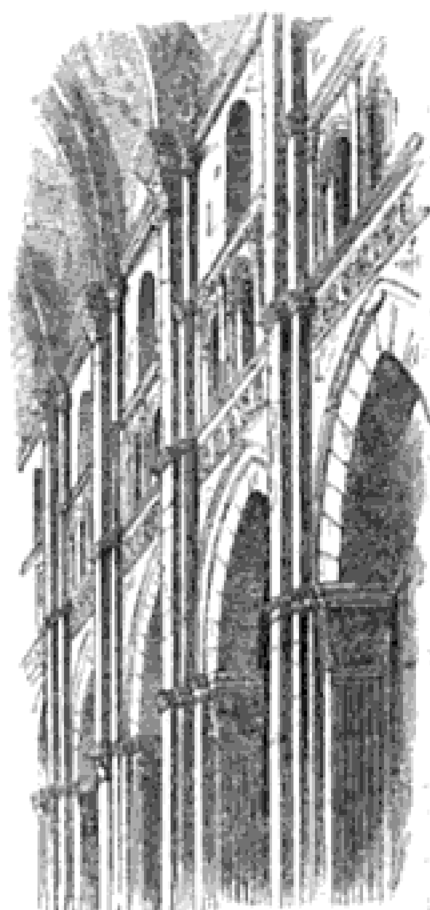
degree of massive magnificence which we so frequently miss among the more elegant beauties of subsequent erections.

The semi-dome of the chevet was supported by eight noble columns, through which were seen in perspective a circle of five apsidal chapels. Externally the roof was crowned by five larger and three smaller towers; and the whole was carried up solidly to a height unrivalled among the buildings of this age. What added to its interest was, that the church at least was at the time of its destruction an almost unaltered specimen of the architecture of the 11th and 12th centuries, having been commenced in 1089 by St. Hugues, and dedicated 1131. The narthex or ante-chapel, though somewhat more modern, was probably completed within the limits of the 12th century. These dates have been disputed, but principally on account of the theories prevalent regarding the origin of the pointed arch. This feature was used here, as it is found elsewhere, in all the pier arches separating the nave from the aisles—the vaulting of the aisles having probably been also pointed, while the great vault of the church is a plain tunnel vault with merely transverse ribs on its surface. That of the narthex is a transverse vault of a later date, but singularly clumsy in its construction. Whether it had a clerestory or not, is not quite clear from such drawings as we possess; but if not, there certainly was a double gallery throughout, the upper range of which, if not both, served to admit light.

What the exact ordinance of this church was, we should hardly be able to make out from the representations we possess, were it not that some other contemporary churches in the same style still remain to us. Among these, one of the most perfect is the cathedral at Autun, formerly the chapel of the dukes of Burgundy, commenced about the year 1060, and consecrated 1132. The arrangement of its nave is extremely similar to that of Cluny, with these differences, that at Autun the great vault is slightly pointed, and that attached to the piers of the nave are pilasters instead of three-quarter columns, as at Cluny. In the ante-church, however, at the latter place, the same pilastered arrangement occurs. This is the characteristic of the true Burgundian style, and so peculiar is it, and so classical, that some antiquaries have not hesitated to consider it as a bad imitation of Gothic forms belonging to the 15th or 16th centuries. In fact its fluted columns or pilasters, their Corinthian capitals, and the whole arrangement are so eminently classical as almost to justify the doubt in those who are not familiar with the history of the southern styles of France. There can, however, be no

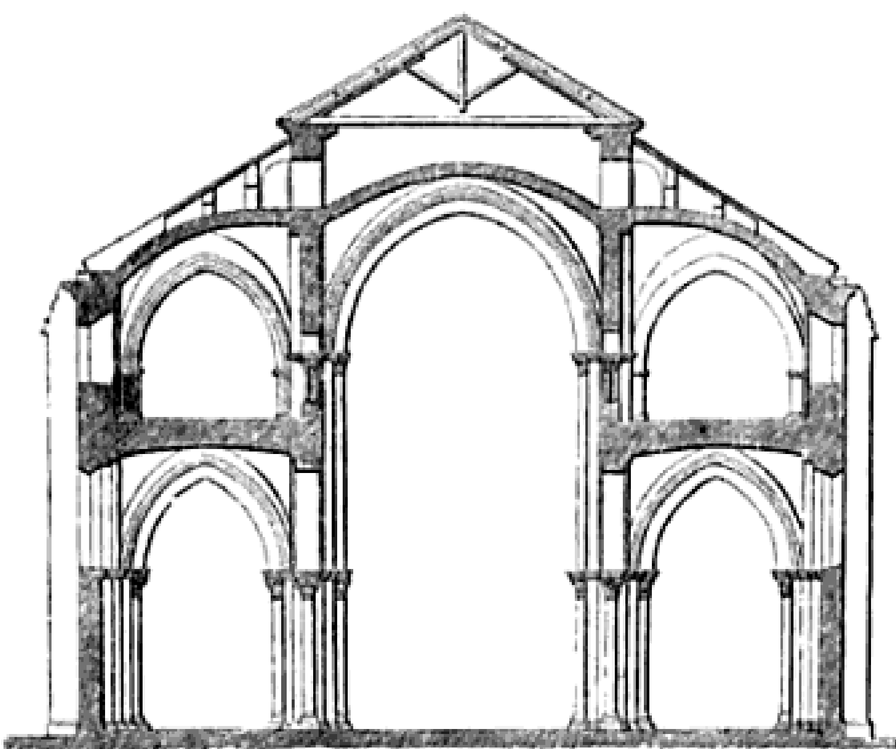

530. View in Aisle at Autun. From Chapuy, Cathédrales Françaises.

doubt as to the age of these examples, and as little as to the models from which they are copied; for in this very city of Autun we have two Roman gateways (one represented in woodcut No. 273), and there are others at Langres and elsewhere, which, except the pointed arch and other constructive peculiarities, are almost identical with the style of these churches. Whether from want of familiarity with this style, or from whatever cause, it certainly is not pleasing to our eyes, and we turn with pleasure to the ruder but more purpose-like inventions of the more purely Gothic architecture of the same age.



531. View in Nave at Autun. From Chapuy.

Among these the province affords no more beautiful specimen than the nave of Vezelay, which possesses all the originality of the Norman combined with the elegance of the Southern styles. In this specimen the pier arches are wide and low, there is no triforium of any sort, and the windows are small. The vault is formed by immense transverse ribs, crossing from pier to pier, and forming square compartments, divided each by plain intersecting arches without ribs, rising considerably in the centre. This certainly is an improvement on the vault at Cluny, but cuts the roof too much up into divisions. Perhaps its greatest defect is its want of height, being only 60 ft. in the centre, while the total width is 86 ft. from wall to wall. But the details of the whole are so elegant as in great measure to redeem these faults.



532. Section of Narthex at Vezelay. From Didron's Annales Archéologiques.

The narthex, or ante-church, resembles that at Cluny both in its importance and in being somewhat more modern than the church itself. Here it dates from the beginning of the 12th century, while the nave seems wholly to belong to the 11th. It is an extremely instructive example of the progress of vaulting. It has the bold transverse ribs, and the plain intersecting vaults, which are here, in accordance with the Southern practice, abutted by the arches of the galleries. In the walls of the galleries are windows large enough to admit a considerable portion of

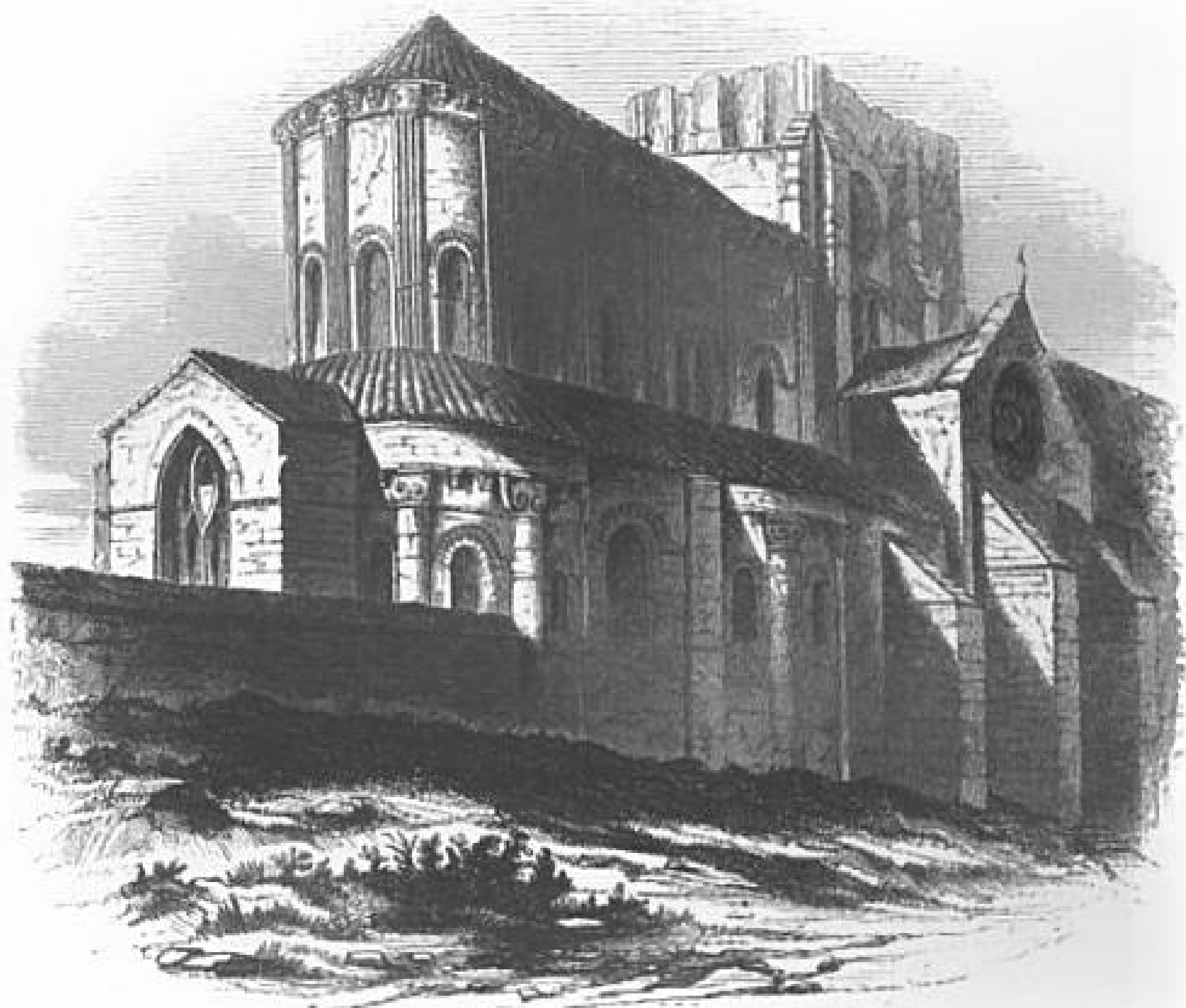
light. But the vaults are here fast losing their original purpose. The central one is covered by a wooden roof. An arched construction supports the solid roof over the side aisles, but the central vault is covered by a wooden roof, so that the stone vault has become a mere ceiling, leaving only one easy step to the completion of the plan of Gothic roofing. This step was to collect the vaults of the side galleries into a mass over each pier, and use them as flying buttresses, and to employ wooden roofs everywhere, wholly independent of the vaults which they covered.

Vezelay is one of the most beautiful of the remaining churches of its age in Burgundy, notwithstanding that the choir, which is a chevet in the early pointed style, like that at Caen and Bayeux, rather disturbs the harmony of the whole.

Among the remaining churches of this class, the cathedral at Besançon is one of the few double apse churches of France, and in plan at least very much more like what we find on the banks of the Rhine.

Another very interesting church is that of Ainay, at Lyons, which in its older parts bears considerable similarity to that of Tournus, though less rude in details. Like that church it possesses pointed arches, which I see no reason for assuming to be subsequent to the beginning of the 11th century.

The cathedral at Vienne, mentioned above, might from some of its details, particularly the form of the pier arches, be fairly classed with this style, showing the fluted pilasters and other classical adjuncts found here. These peculiarities are common both to this and the Pro-



533. East End, St. Menoux. From Allier, l'Ancien Bourbonnais.

vençal style, but the boundary between them is by no means clearly defined.

A little beyond the limits of the province, on the northern border, we find the church of St. Menoux, belonging in many of its details certainly to the style we are describing. This is most distinctly observable in the exterior of the apse of the chevet, which it is rare to find unaltered; here it is surrounded by a series of pilasters of rude classical design, which give it a peculiar local character. Internally too, its chevet (woodcut No. 534) is remarkably elegant, though less



534. Chevet, St. Menoux. From Allier.

Burgundian in style. It shows to what an extent the stilting of round arches could be used to overcome the difficulty of combining arches of different spans, but all requiring to be carried to the same height. Like all the old churches of the province, it possesses a large and important narthex, here the oldest part of the church, and a rude and

characteristic specimen of a style of architecture that can hardly be later than the 10th century.

These few specimens must suffice to define a style which well deserves a volume to itself, not only on account of its own architectural merit, but from the enormous influence exercised both by the style and by its monastic founders on the civilization of Europe in the age to which it belongs. During the 11th and 12th centuries Cluny was more important to France than Paris. Its influence on the whole of Europe was second only to that of Rome—civilizing barbarians by its missionaries, withstanding the feudal nobility, and in many ways counteracting the ferocity of the times.

CHAPTER VIII.

FRANKISH ARCHITECTURE.

CONTENTS.

Frankia.

The architectural history of the central or Frankish province is widely different from that of any of those we have yet examined. It is true Paris was nominally the capital of France, and in the time of Charlemagne had been the centre of a great and powerful empire. His reign, however, seems to have been the last expiring effort of a previous civilization, rather than the foundation of a new and progressive state of affairs. After his death a period of anarchy ensued; and what with the weakness of the kings, the disorganization of the people, and the ravages of the Northmen and other barbarians, no part of France was in a less satisfactory position for the cultivation of the arts of peace than that which might have been expected to take the lead in all. Thus, while the very plunder of the central province enabled the Normans to erect and sustain a powerful state on the one side, and to adorn it with monuments which still excite our admiration, and the organization of the monks of Burgundy on the other hand enabled them to cultivate the arts of peace to an extent hardly known before their time in Northern Europe, Central France remained incapable even of self-defence, much more of raising monuments of splendour and art.

There are no doubt buildings in the round Gothic style in this province, but they are few and insignificant compared with those we have been describing, either in the South or in Normandy and Burgundy. Even in Paris the great church of St. Germain des Près, the burial-place of the earlier kings, and apparently the most splendid edifice of the capital, was not more than 50 ft. in width by 200 in length before the rebuilding of its chevet in the pointed style, and possessed no remarkable features of architectural display. St. Geneviève was even smaller and less magnificent; and if there was a cathedral, it was so insignificant that it has not been mentioned by any contemporary historian.

Several of the provincial capitals had, probably, cathedrals of some extent and magnificence. All these, however, were found so unsuited to the splendid tastes of the 12th and 13th centuries, that they were pulled down and rebuilt on a more extended scale; and it is only from

little fragmentary portions of village churches that we learn that the round Gothic style was really at one time prevalent in the province, and possessed features according to its locality resembling those of the neighbouring styles. So scanty indeed are such traces, that it is hardly worth while to recapitulate here the few observations that might occur on the round Gothic styles as found within the limits of the province.[1]

This state of affairs continued down to the reign of Louis le Gros, 1108–1136, under whom the monarchy of France began to revive. This monarch, by his activity and intelligence, restored to a considerable extent the authority of the central power over the then independent vassals of the crown. This was carried still further under the reign of his successor, Louis le Jeune, though perhaps more was owing to the abilities of the Abbé Suger than to either of these monarchs. He seems to have been one of those great men who sometimes appear at a crisis in the history of their country, to guide and restore what otherwise might be left to blind chance and perish for want of a master mind. Under Philip Augustus the country advanced with giant strides, till under St. Louis it arrived at the summit of its power. For a century after this it sustained itself by the impulse thus given to it, and with scarcely an external sign of that weakness which betrayed itself in the rapidity with which the whole power of the nation crumbled to pieces under the first rude shock sustained at Crecy from the hand of Edward III.

More than a century of anarchy and confusion followed this great event, and perhaps the period of the English wars may be considered as the most disastrous of the whole history of France, as the previous two centuries had been the most brilliant. When she delivered herself from these troubles, she was no longer the same. The spirit of the middle ages had passed away. The simple faith and giant energy of the reigns of Philip Augustus and St. Louis were not to be found under Louis IX. and his inglorious successors. With the accession of Francis I. a new state of affairs succeeded, to the total obliteration of all that had gone before, at least in art.

The improvement of architecture, keeping pace exactly with the improved political condition of the land, began with Louis le Gros, and continued till the reign of Philip of Valois. It was during the two centuries comprised within this period that the pointed architecture was invented, which became the style, not only of France, but of all Europe during the middle ages; and is, *par excellence*, the Gothic style of Europe. The cause of this pre-eminence is to be found partly in the mere accident of the superior power, at the critical period, of the nation to which the style belonged, and also because it was found the most fitted to carry out certain religious principles and decorative

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[1] The Church of St. Remi at Rheims ought perhaps to be treated as an exception to this assertion: it has, however, been so much altered in more modern times as almost to have lost its original character. It nevertheless retains the outlines of a vast and noble basilica of the early part of the 11th century, presenting considerable points of similarity to those of Burgundy.

notions, which were prevalent at the time, and which will be noted as we proceed.

The style therefore with which this chapter is concerned is that which commenced with the building of the Abbey of St. Denis, by Suger, A.D. 1144, which culminated with the building of the Ste. Chapelle of Paris by St. Louis, 1244, and which received its greatest amount of finish at the completion of the choir of St. Ouen at Rouen, by Mark d'Argent, in 1339. There are pointed arches to be found in the central province as well as all over France before the time of the Abbé Suger, but they are only the experiments of masons struggling with a constructive difficulty; and the pointed style continued to be practised for more than a century and a half after the completion of the choir of St. Ouen, but it is no longer the pure and vigorous style of the earlier period. It resembles more the efforts of a national style to accommodate itself to new tastes and new feelings, and to maintain itself by ill-suited arrangements against the innovation of a foreign style which was to supersede it, but whose influence was felt long before its definite appearance.

The sources from which the pointed arch was taken have been more than once alluded to in the preceding pages. It is a subject on which a great deal more has been said and written than was at all called for by the real importance of the question. Scarcely anything was done in pointed architecture which had not already been done in the round-arched styles. Certainly there is nothing which could not have been done, at least nearly as well, and many things much better, by adhering to the complete instead of to the broken arch. The coupling and compounding of piers had already been carried to great perfection, and the assignment of a separate function to each shaft was already a fixed principle. Vaulting too was nearly perfect, only that the main vaults were either hexapartite or 6-celled, instead of quadripartite, as they afterwards became; an improvement certainly, but not of much importance. Ribbed vaulting was the greatest improvement which the Mediæval architects made on the Roman vaults, giving not only additional strength of construction, but an apparent vigour and expression to the vault, which is one of the greatest beauties of the style. This system was in frequent use before the employment of the pointed arch. The different and successive phases of decoration were also one of the Mediæval inventions which was carried to greater perfection in the round Gothic styles than in the pointed. Indeed, it is a fact, that except window tracery, and perhaps pinnacles and flying buttresses, there is not a single important feature in the pointed style that was not invented and currently used before its introduction. Even of windows, which are the important features of the new style, by far the finest are the circular or wheel windows, which have nothing pointed about them, and which always fit awkwardly into the pointed compartments in which they are placed. In smaller windows, too, by far the most beautiful and constructively appropriate tracery is that where circles are introduced into the heads of the pointed windows; but after hundreds of experiments and expedients, the difficulty of

fitting these circles into spherical triangles, and the unpleasant form to which their disagreement inevitably gave rise, proved ultimately so intolerable, that the architects were forced to abandon the beautiful constructive geometric tracery for the flowing or flamboyant form: and this last was so ill adapted to stone construction, that ultimately the method was abandoned altogether. These and many other difficulties would have been avoided, had the architects adhered to the form of the unbroken arch; but on the other hand it must be confessed that the pointed forms gave a facility of arrangement which was an irresistible inducement for its adoption; and especially to the French, who always affected height as the principal element of architectural effect, it afforded an easy means for the attainment of this object. Its greatest advantage was the ease with which any required width could be combined with any required height. With this power of adaptation the architect was at liberty to indulge in all the wildness of the most exuberant fancy, hardly controlled by any constructive necessities of the work he was carrying out. Whether this was really an advantage or not, is not quite clear. A tighter rein on the fancy of the designer would certainly have produced a purer and severer style, though we might have been deprived of some of those picturesque effects which charm so much in Gothic cathedrals, especially when their abruptness is softened by time and hallowed by associations. We must, however, in judging of the style, be careful to guard ourselves against fettering our judgment by such associations. There is nothing in all this that might not have been as easily applied to round as to pointed arches, and indeed it would certainly have been so applied, had any of the round-arched styles arrived at maturity.

Far more important than the introduction of the pointed arch was the invention of painted glass, which is really the important formative principle of Gothic architecture; so much so, that there would be more meaning in the name, if we were to call it the "*painted glass style*," instead of the pointed arch style.

In all the earlier attempts at a pointed style, which have been alluded to in the preceding pages, it was confined to the vaults, pier arches, and merely constructive parts, while the decorative parts, especially the windows and doorways, were still round-headed. The windows were small, and at considerable distances, a very small surface of openings filled with plain white glass being sufficient to admit all the light that was required for the purposes of the building, while more would have destroyed the effect by the garish lightness that is now so offensive in most of our great cathedrals. As soon, however, as painted glass was introduced the state of affairs was altered: the windows were first enlarged, as far as was thought possible without endangering the painted glass, with the imperfect means of supporting it then known.[1] All circular plans were abandoned, and polygonal apses and chapels of the chevet introduced; and lastly, the windows

[1] These consisted of strong iron bars, wrought into patterns in accordance with the design painted on the glass.

being made to occupy as nearly as was possible the whole of each face of these polygons, the lines of the upper part of the window came internally into such close contact with the lines of the vault, that it was almost impossible to avoid making them correspond the one with the other. Thus the windows took the pointed form already adopted for constructive reasons in the vaults. This became even more necessary when the fashion was introduced of grouping two or three simple windows together so as to form one; and lastly, when those portions of wall which separated these windows one from the other had become attenuated into mullions, and the upper part into tracery, until in fact the whole wall was taken up by the new species of decoration.

So far as internal architecture is concerned, the invention of painted glass was perhaps the most beautiful ever made. The painted slabs of the Assyrian palaces are comparatively poor attempts at the same effect. The hieroglyphics of the Egyptians were far less splendid and complete; nor can the painted temples of the Greeks, nor the mosaics and frescos of the Italian churches, be compared with the brilliant effect and party-coloured glories of the windows of a perfect Gothic cathedral, where the whole history of the Bible is written in the hues of the rainbow by the earnest hand of faith.

Unfortunately no cathedral retains its painted glass in anything like such completeness; and so little is the original intention of the architects understood, that we are content to admire the plain surface of white glass, and to consider this as the appropriate filling of traceried windows, just as our fathers thought that whitewash was not only the purest, but the best mode of decorating a Gothic interior. What is worse, modern architects, when building Gothic churches, fill their sides with large openings of this class, not reflecting that a gallery of picture-frames without the pictures is after all a sorry exhibition; but so completely have we lost all real feeling for the art, that its absurdity does not strike us now.

It will, however, be impossible to understand what follows, unless we bear in mind that all windows in all churches erected after the middle of the 12th century were at least intended to be filled with painted glass, and that the principal and guiding motive in all the changes subsequently introduced into the architecture of the age was to obtain the greatest pos ible space and the best arranged localities for its display.

Freemasonry.

The institution of freemasonry is another matter on which, like the invention of the pointed arch, a great deal more has been said than the real importance of the subject at all deserves. Still this subject has been considered so all-important, that it is impossible to pass it over here without some reference, if only to explain why so little notice will be taken of its influence, or of the important names which are connected with it.

Before the middle of the 12th and beginning of the 13th century, it is generally admitted that the corporation of freemasons was not sufficiently organized to have had much influence on art. At that time it is supposed to have assumed more importance, and to have been

the principal guiding cause in the great change that then took place in architecture. Those who adopt this view, forget that at that time all trades and professions were organized in the same manner, and that the guild of masons differed in no essential particulars from those of the shoemakers or hatters, the tailors or vintners—all had their masters and past-masters, their wardens, and other officers, and were recruited from a body of apprentices, who were forced to undergo years of probationary servitude before they were admitted to practise their art.

But though their organization was the same, the nature of their arts forced one very essential distinction upon the masons, inasmuch as all the usual trades were local, and the exercise of them confined to the locality where the tradesmen resided, while the builders were forced to go wherever any great work was to be executed.

Thus the shoemakers, tailors, bakers, and others, lived among their customers, and just in such numbers as were required to supply their usual recurring wants. It is true the apprentices travelled to learn their profession and see the world before settling down, but after that each returned to his native town or village, and then established himself among his friends or relatives, where he was known by all, and where he at once took his station without further trouble.

With the mason it was different: his work never came to him, nor could it be carried on in his own house; he always was forced to go to his work; and when any great church or building was to be erected in any town, which was beyond the strength of the ordinary tradesmen of the place to undertake, masons were sent for, and flocked from all the neighbouring towns and districts to obtain employment.

At a time when writing was almost unknown among the laity, and not one mason in a thousand could either read or write, it is evident that some expedient must be hit upon by which a mason travelling to his work might claim the assistance and hospitality of his brother masons on the road, and by means of which he might take his rank at once, on reaching the lodge, without going through tedious examinations or giving practical proof of his skill. For this purpose a set of secret signs was invented, which enabled all masons to recognise one another as such, and by which also each man could make known his grade to those of the same rank, without further trouble than a manual sign, or the utterance of some recognised pass-word. Other trades had something of the same sort, but it never was necessary for them to carry it either to the same extent nor to practise it so often as the masons, being for the most part resident in the same place and knowing each other personally. The masons, thus from circumstances organized more completely than other trades, were men skilled in the arts of hewing and setting stones, acquainted with all recent inventions and improvements connected with their profession, and capable of carrying out any work that might be entrusted to them, though always under the guidance of some superior personage, whether he was a bishop or abbot, or an accomplished layman. In the time of which we are speaking, which was the great age of Gothic art, there is no instance of a mason of any grade being called upon to furnish the design as well as to execute the work.

It may appear strange to us in the 19th century, among whom the great majority really do not know what true art means, that six centuries ago eminent men, not specially educated to the profession of architecture, and qualified only by talent and good taste, should have been capable of such vast and excellent designs; but a little reflection will show how easy it is to design when art is in the right path.

If for instance we take a cathedral, any one of a series—let us say Paris: when it was completed, or nearly so, it was easy to see that though an improvement on those which preceded it, there were many things which might be better. The side aisles were too low, the gallery too large, the clerestory not sufficiently spacious for the display of the painted glass, and so on. Let us next suppose the Bishop of Amiens at that period determined on the erection of his cathedral. It was easy for him or his master-mason to make these criticisms, and also to see how to avoid these mistakes; they could easily also see where width might be spared, especially in the nave; how also a little additional height and a little additional length would improve the effect of the whole. During the progress of the Parisian works also some capitals had been designed, or some new form of piers, which were improvements on preceding examples, and generally more confidence and skill would be derived from experience in the construction of arches and vaults. All these of course would be adopted in the new cathedral; and without making drawings, guided only by general directions as to the plan and dimensions, the masons might proceed with the work, and introducing all the new improvements as it progressed, they would inevitably produce a better result than any that preceded it, without any especial skill on the part either of the master-mason or his employer.

If a third cathedral were to be built after this, it would of course contain all the improvements made during the progress of the second, and all the corrections which its results suggested; and thus, while the art was really progressive, it required neither great individual skill nor particular aptitude to build such edifices as we find.

In fine arts we have no illustration of this in modern times; but all our useful arts advance on the same principles, and lead consequently to the same results. In ship-building, for instance, if we take a series of ships, from those in which Edward III. and his bold warriors crossed the Channel to the great line-of-battle ships now lying at anchor in our harbours, we find a course of steady and uninterrupted improvement from first to last. Some new method is tried: if it is found to succeed, it is retained; if it fails, it is dropped. Thus the general tendency constantly leads to progress and improvement. And, to continue the comparison a little further: this progress in the art is not attributable to one or more eminent naval architects. Great and important discoveries have no doubt been made by individuals, but in these cases we may generally assume that, the state of science being ripe for such advances, had the discovery in question not been made by one man, it soon would have occurred to some other.

The fact is, that in a useful art like that of ship-building, or in an

art combining use and beauty like that of architecture—that is, when the latter is a real, living, national art—the progress made is owing, not to the commanding abilities of particular men, but to the united influence of the whole public. An intelligent sailor who discusses the good and bad qualities of a ship, does his part towards the advancement of the art of ship-building. So in architecture, the merit of any one admirable building, or of a high state of national art, is not due to one, or to a few master minds, but to the aggregation of experience, the mass of intellectual exertion, which alone can achieve any practically great result. Whenever we see any work of man truly worthy of admiration, we may be quite sure that the credit of it is not due to an individual, but to thousands working through a long series of years.

The pointed Gothic architecture of Germany furnishes a negative illustration of the view which we have taken of the conditions necessary for great architectural excellence. There the style was not native, but introduced from France. French masons were employed, who executed their work with the utmost precision, and with a perfection of masonic skill scarcely to be found in France itself. But in all the higher elements of beauty, the German pointed Gothic cathedrals are immeasurably inferior to the French. They are no longer the expression of the devotional feelings of the clergy and people: they are totally devoid of the highest order of architectural beauty.

The truth of the matter is, that the very pre-eminence of the great masonic lodges of Germany in the 14th century destroyed the art. When freemasonry became so powerful as to usurp to itself the designing as well as the execution of churches and other buildings, there was an end of true art, though accompanied by the production of some of the most wonderful specimens of stone cutting and of constructive skill that ever were produced. This, however, is "building," not architecture; and though it may excite the admiration of the vulgar, it never will touch the feelings of the true artist or man of taste.

This decline of true art had nowhere shown itself during the 13th century, with which we are concerned at present. Then architecture was truly progressive: every man and every class in the country lent his aid, each in his own department, and all worked together to produce those wonderful buildings which still excite our admiration. The masons performed their part, and it was an important one; but neither to them nor to their employers, such as the Abbé Suger, Maurice de Sully, Robert de Lusarches, or Fulbert of Chartres, is the whole merit to be ascribed, but to all classes of the French nation carrying on steadily a combined movement towards a well-defined end.

In the following pages, therefore, it will not be necessary to recur to the freemasons nor their masters—at least not more than incidentally—till we come to Germany. Nor will it be necessary to attempt to define who was the architect of any particular building. The names usually fixed upon by antiquaries after so much search are merely those of the master-masons or foremen of the works, who had nothing to do with the main designs of the buildings.

CHAPTER IX.

FRENCH GOTHIC CATHEDRALS.

CONTENTS.

THE great difficulty in attempting to describe the architecture of France during the glorious period of the 13th century is really the *embarras de richesse*. There are even now some thirty or forty cathedrals of the first class in France, all owing their magnificence to this great age. Some of these, it is true, were commenced even early in the 12th, and many were not completed till after the 14th century; but all their principal features, as well as all the more important beauties, belong to the 13th century, which, as a building epoch, is perhaps the most brilliant in the whole history of architecture. Not even the great Pharaonic era in Egypt, the age of Pericles in Greece, nor the great period of the Roman empire, will bear comparison with the 13th century in Europe, whether we look to the extent of the buildings executed, their wonderful variety and constructive elegance, the daring imagination that conceived them, or the power of poetry and of lofty religious feelings that is expressed in every feature and in every part of them.

During the previous age almost all the greater ecclesiastical buildings were abbeys, or belonged exclusively to monastic establishments—were in fact the sole property, and built only for the use, of the clergy. The laity, it is true, were admitted, but only on sufferance. They had no right to be there, and no part in the ceremonies performed. During the 13th century almost all the great buildings were cathedrals, in the erection of which the laity bore the greater part of the expense, and shared, in at least an equal degree, in their property and purposes. In a subsequent age the parochial system went far to supersede even the cathedral, the people's church taking almost entirely the place of the priest's church, a step which was subsequently carried to its utmost length by the Reformation. Our present subject requires us to fix our attention on that stage of this great movement which gave rise to the building of the principal cathedrals throughout Europe from the 12th to the 15th century.

The transition from the round Gothic to the true pointed Gothic style in the centre of France took place with the revival of the national power under the guidance of the great Abbé Suger, about the year 1144. In England it hardly appeared till the rebuilding of Can-

terbury Cathedral, under the guidance of a French architect, A.D. 1175; and in Germany it is not found till, at all events, the beginning of the 13th century, and can hardly be said to have taken firm root in that country till a century at least after it had been fairly established in France.

The development of particular features will be pointed out as we proceed; but no attempt will be made to arrange the cathedrals and great buildings in chronological order. Such an attempt would merely lead to confusion, as most of them took a century at least to erect—many of them two.

In France, as in England, there is no one great typical building to which we can refer as a standard of perfection—no Hypostyle Hall or Parthenon which combines in itself all the excellences of the style; and we are forced therefore to cull from a number of examples materials for the composition, even in imagination, of a perfect whole. Germany has in this respect been more fortunate, possessing in Cologne Cathedral an edifice combining all the beauties ever attempted to be produced in pointed Gothic in that country. But even this is only an imitation of French cathedrals, erected by persons who admired and understood the details of the style, but were incapable of appreciating its higher principles. The great cathedrals of Rheims, Chartres, and Amiens, are all early examples of the style; and as they were erected nearly simultaneously, none of their architects were able to profit by the experience obtained in the others. Consequently they are all more or less experiments in a new and untried style. The principal parts of the church of St. Ouen at Rouen, on the contrary, are somewhat too late; and beautiful though it is, masonic perfection was then coming to be more considered than the expression either of poetry or of power.

Still in Rheims Cathedral we have a building possessing so many of the perfections and characteristic beauties of the art, that it may almost serve as a type of the earlier style, as St. Ouen may of the later; and though we may regret the absence of the intermediate steps, except in such fragments as the Sainte Chapelle at Paris, still between them we may obtain a tolerably clear idea of the form to which French art aspired during its most flourishing age.

To avoid as far as may be possible the tediousness of repetition necessary, if the attempt were made, to describe each building separately, and at the same time not to fall into the confusion that must result from grouping the whole together, the most expedient mode will perhaps be, to describe first the four great typical cathedrals of Paris, Chartres, Rheims, and Amiens, and then to point out briefly the principal resemblances and differences between these and the other cathedrals of France.

Of these four, that of Paris is the oldest; the foundation-stone having been laid 1163, and the work carried on with such activity by the bishop, Maurice de Sully, that the high altar was dedicated 1182, the interior completed 1208, and the west front finished about the year 1214.

The history of the cathedral of Chartres is not so easily made out. An important church was erected here by Bishop Fulbert in the beginning of the 11th century, of which building scarcely anything now remains but the piers of the western doors.

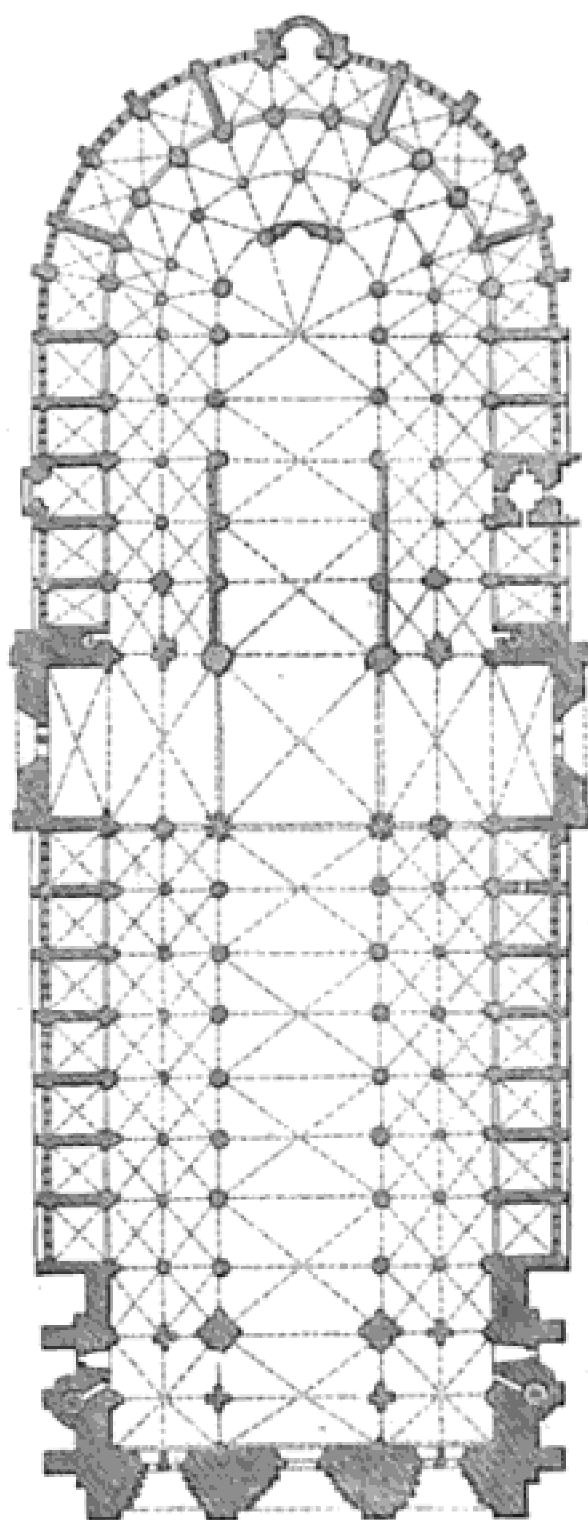
The building of the present church seems to have been commenced about a century after the completion of the older building, for the great western towers were in progress in the year 1145, and the new choir must have been commenced very shortly afterwards. Indeed, the greater part of the building belongs to the latter half of the 12th century, or very early in the 13th; but it was not completed till the year 1260.

The cathedral of Rheims was commenced in the year 1211, immediately after a fire which consumed the preceding building, and under the auspices of Archbishop Alberic de Humbert,—Robert de Couci acting as trustee on the part of the laity. It was so far completed in all essential parts as to be dedicated in 1241.

Amiens Cathedral was commenced in 1220, and completed in 1257; but being partially destroyed by fire the year afterwards, the clerestory and all the upper parts of the church were rebuilt. The whole seems to have been completed, nearly as we now find it, about the year 1272. From this period to the building of the choir of St. Ouen, at Rouen, 1318–1339, there is a remarkable deficiency of great examples in France. The intermediate space is very imperfectly filled by the examples of St. Urbain at Troyes, St. Benigne at Dijon, and a few others. These are just sufficient to show how exquisite the style then was, and what we have lost by almost all the cathedrals of France having been commenced simultaneously, and none being left to benefit by the experience of their predecessors.

Though the plans of these cathedrals differ to some extent, their dimensions are very nearly the same; that at—

Paris, covering about . .	64,108 feet.
Chartres	68,260 ,,
Rheims	67,475 ,,
Amiens	71,208 ,,

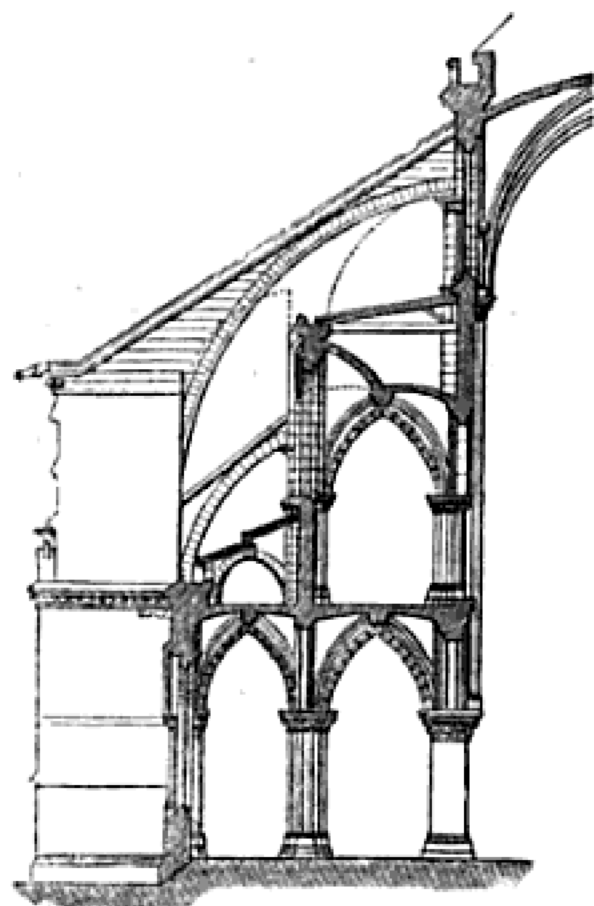


535. Plan of Cathedral of Notre Dame, Paris. From Chapuy, Moyen Age Monumental. Scale 100 ft. to 1 in.

These dimensions, though inferior to those of Cologne, Milan, Seville, and some other exceptional buildings, are still as large as those of any erected in the middle ages.

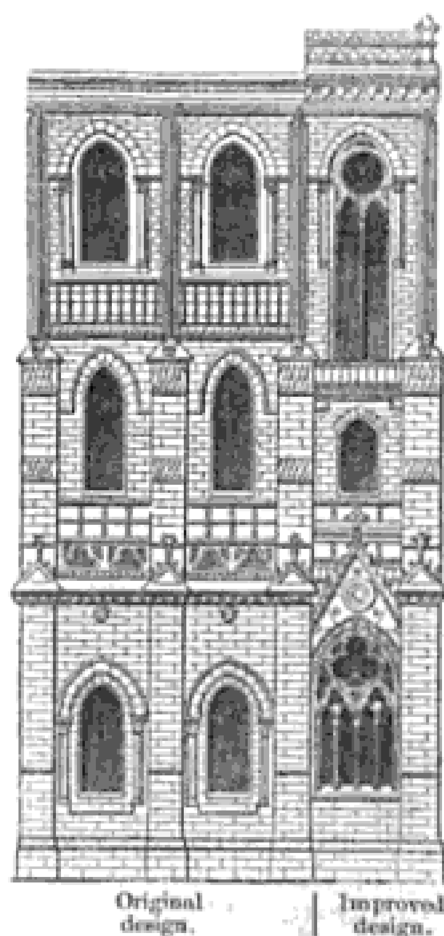
The cathedral of Paris was designed at a time when the architects

had not obtained that confidence in their own skill which made them afterwards complete masters of the constructive difficulties of the design. As shown in the plan (woodcut No. 535), the points of support are far more numerous and placed nearer to one another than is usually the case; and as may be seen from the section, instead of two tall stories, the height is divided into three, and made up, if I may so express it, of a series of cells built over and beside each, so as to obtain immense strength with a slight expenditure of materials.



536. Section of Side Aisles, Cathedral of Paris. From Gailhabaud, Architecture. Scale 50 feet to 1 inch.

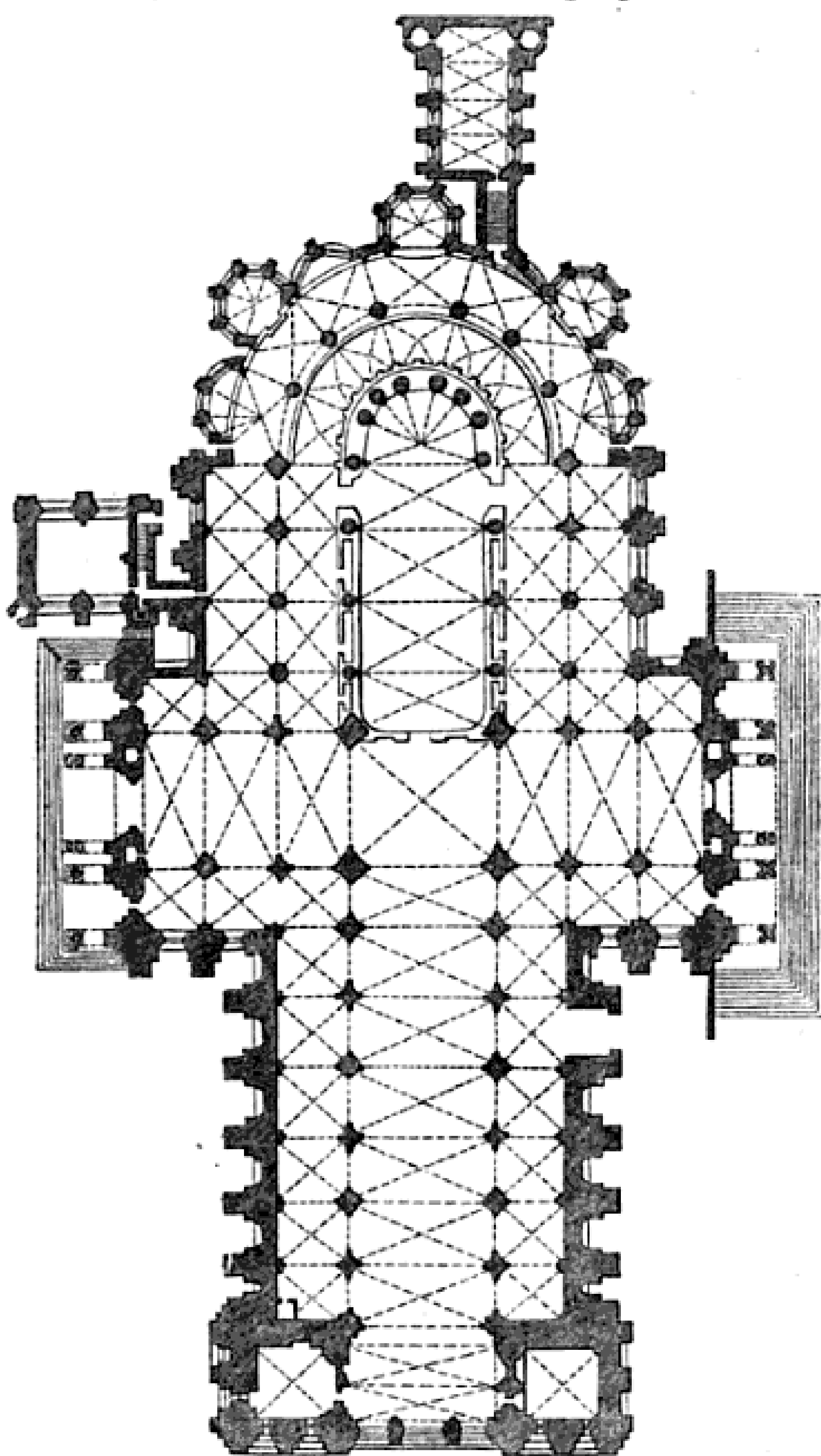
It must at the same time be confessed that this result was obtained with a considerable sacrifice of grandeur and simplicity of effect. Even before the building was completed, the architects seem to have become aware of these defects; and as is shown in the woodcut (No. 537), the simple undivided windows of the clerestory were cut down so as to give them the greatest possible height, and the roof of the upper gallery made flat to admit of this; and eventually larger windows were introduced between the buttresses, so as to get fewer and larger parts, and also of course to admit of larger surfaces for painted glass. With all these improvements the cathedral has not internally the same grandeur as the other three, though externally there is a very noble simplicity of outline, and appearance of solidity in the whole design. Internally it still retains, as may be seen from the plan, the hexapartite arrangement in its vaults over the central aisle, and the quadripartite in the side aisles only. This causes the central vault to overpower those on each side, and makes not only the whole church, but all the parts, look much smaller than would have been the case had the roof been cut into smaller divisions, as was always done afterwards.



537. External Elevation, Cathedral of Paris. From Gailhabaud. Scale 50 feet to 1 inch.

At Chartres most of these defects were avoided; there is there a fewness of parts and a grandeur of conception seldom surpassed. The great defect of proportion in that building arises from the circumstance that the architect included the three aisles of the old church in the central aisle of the present one. At that time that daring perfection of execution had not been acquired which afterwards enabled the vaults to be carried to so astonishing a height. At Chartres the pro-

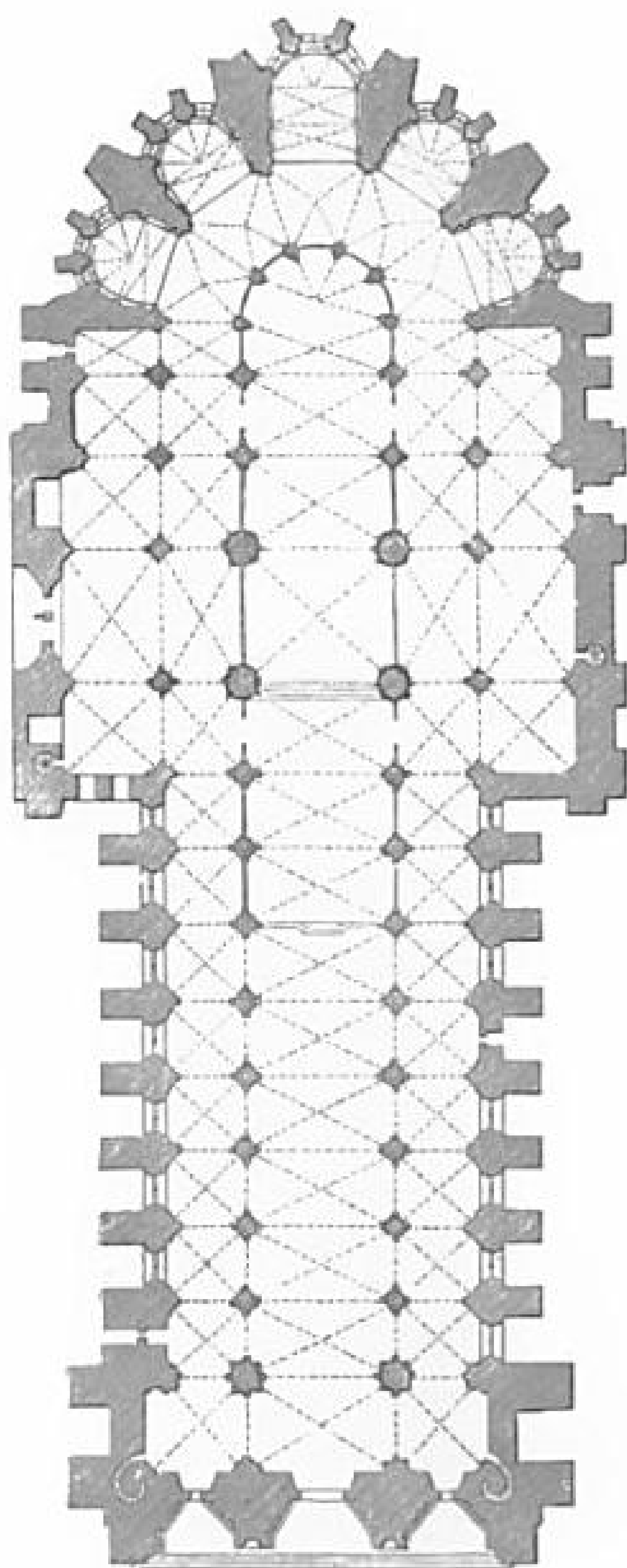
portion of width to height is nearly as one to two, the breadth of the central nave being nearly 50 ft., and the height only 106. With the great length of such buildings found in England such proportions were tolerable, but in the shorter French cathedrals it gives an appearance of lowness which is far from being pleasing; and as the painted glass has been almost entirely removed from the nave, a cold glare now pervades the whole, which renders it extremely difficult to judge of the original effect.



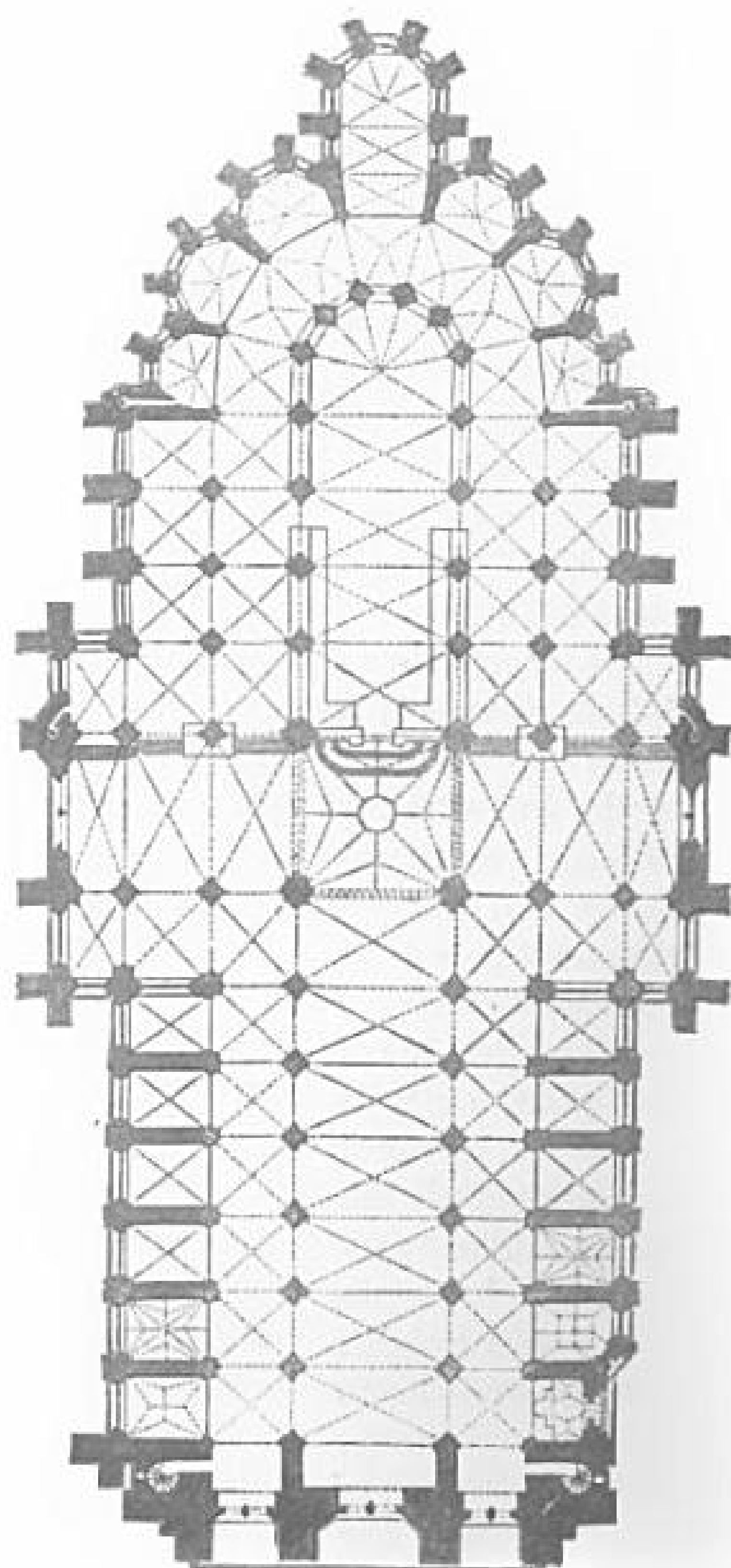
538. Plan of Chartres Cathedral. From Chapuy. Scale 100 ft. to 1 in.

Most of those defects were avoided by the builders of the cathedral at Rheims, and nothing can exceed the simple beauty and perfection of the arrangement of the plan, as well as of the general harmony of all the parts. The proportion, both in width and height, of the side aisles to the central nave, and the absence of side chapels or any subsequent additions, render the nave one of the most perfect in France. The mode in which the church expands as you approach the choir, and the general arrangement of the eastern part, as shown in the plan (woodcut No. 539), are equally excellent, and surpassed by no building of the middle ages. The piers are perhaps a little heavy, and their capitals want simplicity; the triforium is perhaps too plain; and at the present day the effect of the church is in one respect reversed, inasmuch as the clerestory retains its painted glass, which in the side aisles has been almost totally destroyed. In consequence of this, it has the effect of being lighted from below—an arrangement highly destructive of

architectural beauty. Notwithstanding all this, it far surpasses those buildings which preceded it, and is only equalled by Amiens and those completed afterwards, which, taking advantage of the introduction just at the time of their erection of complicated window tracery, were enabled to dispense almost wholly with solid walls, and to render their clerestories at least one blaze of gorgeous colouring—the glass being



539. Plan of Rheims Cathedral. Scale 100 feet to 1 inch.



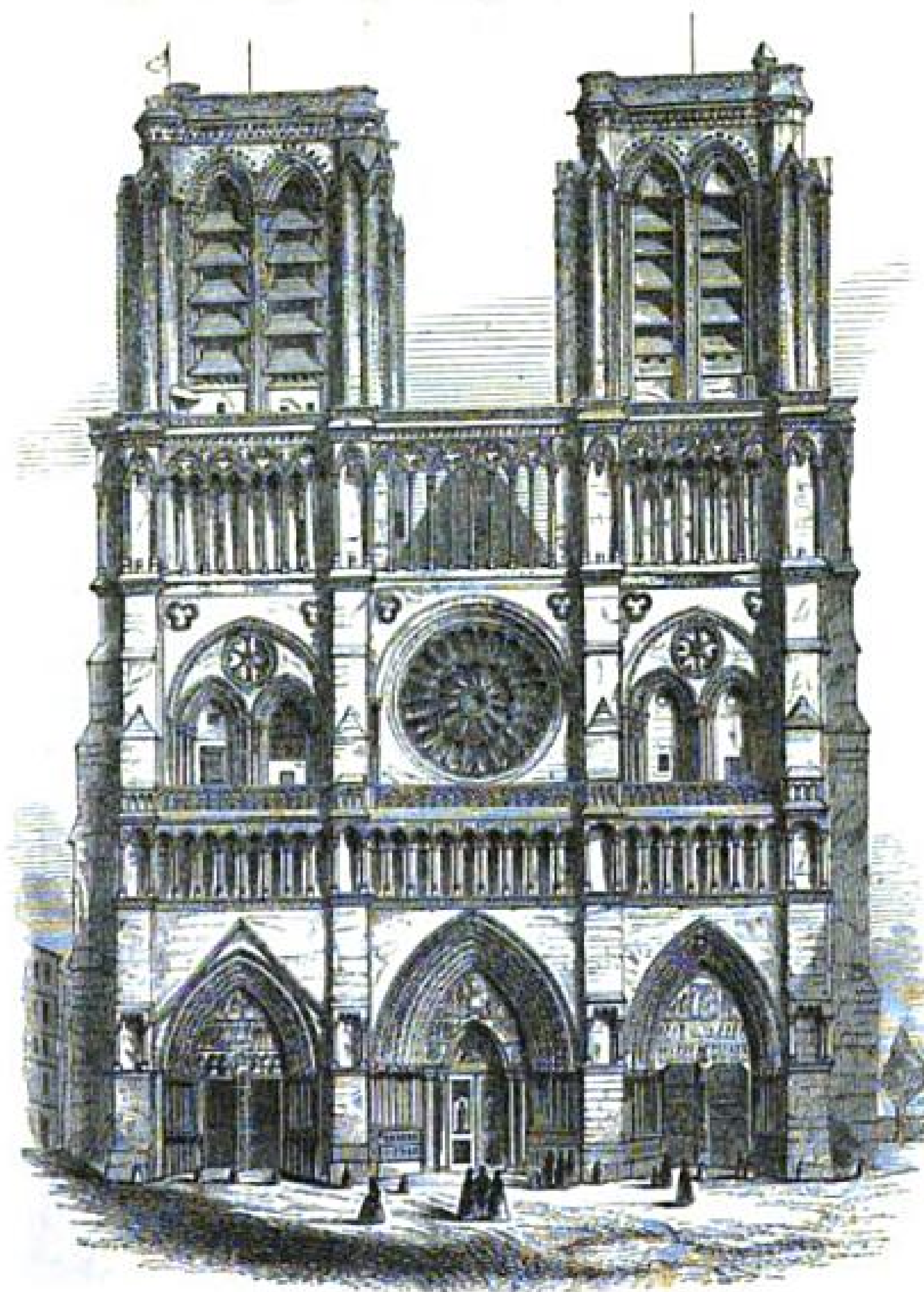
540. Plan of Amiens Cathedral. Scale 100 feet to 1 inch.

From Chapuy.

disposed in the most beautiful forms, and framed in stone, so as to render it, notwithstanding its extent, still an integral part of the whole building. In this respect the great height of the clerestory at Amiens, and its exceeding lightness, give it an immense advantage over the preceding churches, although this is gained at the sacrifice, to a certain extent, of the sober and simple majesty of the earlier examples. There is nevertheless so much beauty and so much poetry in the whole effect

that it is scarcely fair to apply the cold rules of criticism to so fanciful and fascinating a creation.

Externally the same progress is observable in these four cathedrals as in their interior arrangements. The façade of the cathedral at Paris is simple in its outline, and bold and majestic in all its parts, and though perhaps a little open to the charge of heaviness, it is admirably adapted to its situation, and both in design and proportion fits admirably to the church to which it is attached. The flanks too of the building, as originally designed, must have been singularly



541. View of the Façade of the Cathedral at Paris. From Chapuy.

beautiful, for, though sadly disfigured by the insertion of chapels, which obliterate the buttresses and deprive it of that light and shade so indispensable to architectural effect, even now there is a simplicity in its outline, and an elegance in the whole form of the building, that has not often been excelled in Gothic structures.

The lower part of the façade at Chartres is older than that of Paris, and so plain (it might almost be called rude) as hardly to admit of comparison with it; but its two spires, of different ages, are unsur-

passed in France. Even in the southern or older of the two, which was probably finished in the 12th century, we find all the elements which were so fully developed in Germany and elsewhere in the following centuries. The change from the square to the octagon, and from the perpendicular part to the sloping sides of the spire, are managed with the most perfect art; and were not the effect it produces destroyed by the elaborate richness of the other spire, it would be con-

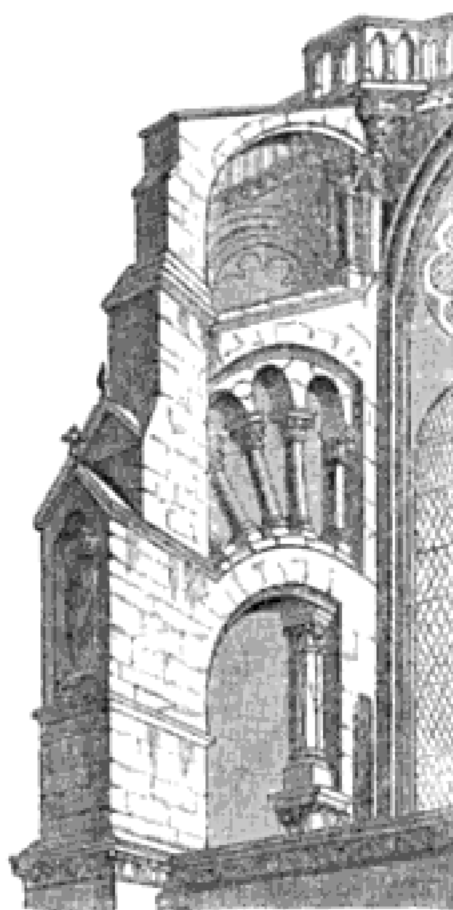


542. North-West View of the Cathedral at Chartres. From Chapuy.

sidered one of the most beautiful of its class. The new or northern spire was erected by Jean Texier between the years 1507 and 1514. Notwithstanding the lateness of its date, this must be considered as on the whole the most beautiful spire on the continent of Europe—certainly far surpassing those at Strasburg, Vienna, or Antwerp. If it has a rival it is that at Freiburg, or those designed for the cathedral

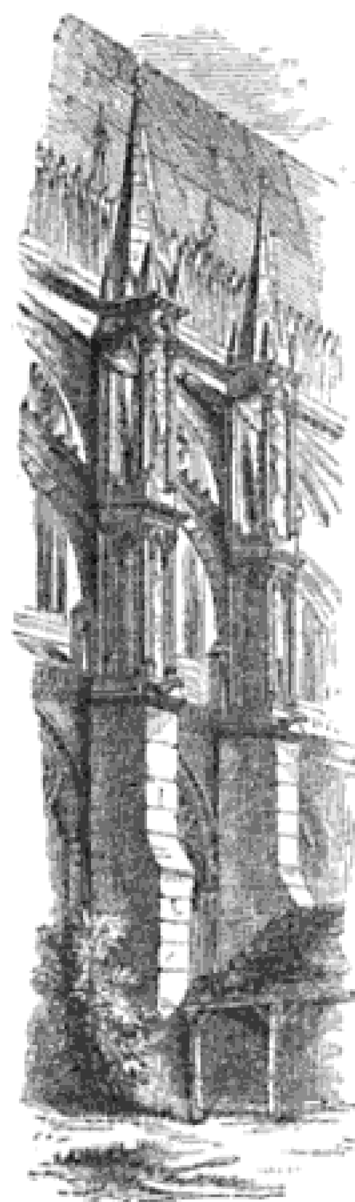
at Cologne; but with details of the same date, I have no doubt that this would be considered the finest spire of the three.[1]

The transepts at Chartres have more projection than those of Paris, and were originally designed with two towers to each, and two others were placed one on each side of the choir; so that the cathedral would have had eight towers altogether if completed; but none except the western two have been carried higher than the springing of the roof; and though they serve to vary the outline, they do not relieve, to the extent they might have done, the heavy mass of the roof. In other respects the external beauty of the cathedral is somewhat injured by the extreme massiveness of the flying buttresses, which were deemed necessary to resist the thrust of the enormous vault of the central nave; and, though each is in itself a massive and beautiful object, they crowd to an inconvenient extent the clerestory; the effect of which is also somewhat injured by the imperfect tracery of the windows, each of which is more like separate openings grouped together than one grand and simple window.



543. Buttress at Chartres. From Batissier, Histoire de l'Art.

The progress that took place between this building and that at Rheims is more remarkable on the exterior than even in the interior. The façade of that church, though small as compared with some others, was perhaps the most beautiful structure produced during the middle ages; and, though it is difficult to institute a rigorous comparison between things so dissimilar, there is perhaps no façade, either of ancient or of modern times, that surpasses it in beauty of proportion and details, or in fitness for the purpose for which it was designed. Nothing can exceed the majesty of its deeply-recessed triple portals, the beauty of the rose-window that surmounts them, the elegance of the gallery that completes the façade and serves as a basement to the light and graceful towers that crown the composition. These were designed to carry spires, no doubt as elegant and appropriate as themselves; but this part of the design was never



544. Buttresses at Rheims. From Chapuy.

[1] The height of the old spire is 342 ft. 6 in. with the cross; of the new, 371 ft.

completed. The beautiful range of buttresses which adorn the flanks of the building are also perhaps the most beautiful in France, and carry the design of the façade back to the transepts. These are later and less ornate than the western front, but are still singularly beautiful, though wanting the two towers designed to ornament each of them. On the intersection of the nave with the transepts there rose at one time a spire of wood, probably as high as the intended spires of the western towers, and one still crowns the ridge of the chevet, rising to half the height above the roof that the central one was intended to attain. Were these all complete, we should have the beau ideal externally of a French cathedral, with two western and one central spire, and four towers at the ends of the transepts. All these perhaps never were fully completed in any instance, though the rudiments of the arrangement are found in almost all the principal French cathedrals. In some, as for instance at Rouen, it was carried out in number, though of such different ages and design as to destroy that unity of effect essential to perfect beauty.

The external effect of Amiens may be taken rather as an example of the defects of the general design of French cathedrals than as an illustration of their beauties. The western façade presents the same general features as those of Paris and Rheims, but the towers are so small in proportion to the immense building behind as to look mean and insignificant, and all the parts of the design are so badly put together as to lose in a great measure the effect they were designed to produce. The northern tower is 223 ft. high, the southern 205; both therefore are higher than those at York, but instead of being appropriate and beautiful adjuncts to the building they are attached to, they only serve here to exaggerate the gigantic incubus of a roof, 208 ft. in height, which overpowers the building it is meant to adorn.

The same is true of the central spire, which, though higher than that at Salisbury, being 422 ft. high from the pavement, is reduced from the same cause to comparative insignificance, and is utterly unequal to the purpose of relieving the heaviness of outline for which this cathedral is remarkable. The filling up of the spaces between the buttresses of the nave with chapels prevents the transepts from having their full value, and gives an awkward fulness to the design of the whole.

All French cathedrals are more or less open to these objections, and want in consequence that exquisite variety of outline and play of light and shade for which the English examples are so remarkable; but it still remains a question how far the internal loftiness and the glory of their painted glass compensate for these external defects. The truth perhaps would be found in a mean between the two extremes, which has not unfortunately been attained in any one example.

Besides the character imparted to the buildings by mass and beauty of outline, we must look more closely at the details, and see how far the general effect was necessarily sacrificed for particular purposes.

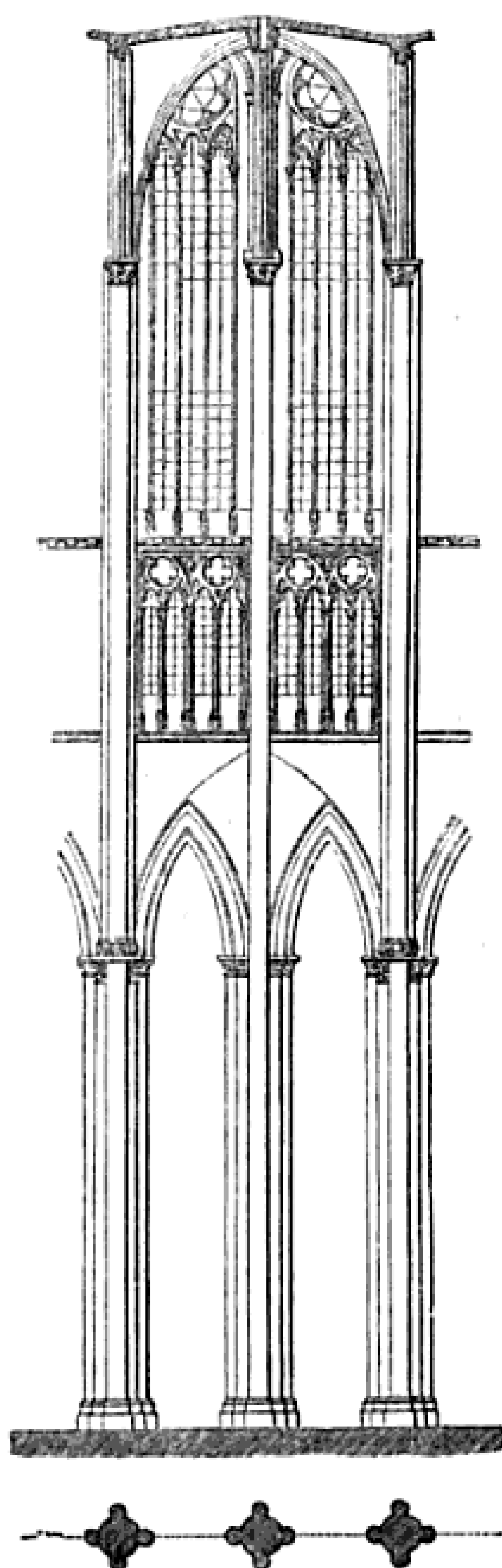
What painted glass was to the interior of a French cathedral, sculpture was to the exterior. Almost all the arrangements of the

façade were modified mainly to admit of its display to the greatest possible extent. The three great cavernous porches of the lower part would be ugly and unmeaning in the highest degree without the sculptures that adorn them. The galleries above are mere ranges of niches, as unmeaning without their statues as the great mullioned windows without their "storied panes." In such lateral porches too, as those for instance at Chartres, the architecture is wholly subordinate to the sculpture; and in a perfect cathedral of the 13th century the buttresses, pinnacles, even the gargoyles, every "coin of vantage," tells its tale by some image or representation of some living thing, giving meaning and animation to the whole. The cathedral thus became an immense collection of sculptures, containing not only the whole history of the world as then known and understood, but also an immense number of objects representing the art and science of the middle ages. Thus the great cathedrals of Chartres and Rheims even now retain some 5000 figures, scattered about or grouped together in various parts, beginning with the history of the creation of the world and all the wondrous incidents of the 1st chapter of Genesis, and then continuing the history through the whole of the Old Testament. In these sculptures the story of the redemption of mankind is told, as set forth in the New, with a distinctness, and at the same time with an earnestness, almost impossible to surpass. On the other hand, ranges of statues of kings of France and other popular potentates carry on the thread of profane history to the period of the erection of the cathedral itself. Besides these we have, interspersed with them, a whole system of moral philosophy, as illustrated by the virtues and the vices, each represented with an appropriate symbol, and the reward or punishment its invariable accompaniment. In other parts are shown all the arts of peace, every process of husbandry in its appropriate season, and each manufacture or handicraft in all its principal forms. Over all these are seen the heavenly hosts, with saints, angels, and archangels. All this is so harmoniously contrived and so beautifully expressed, that it becomes a question even now whether the sculpture of these cathedrals does not excel the architecture.

In the middle ages, when books were rare, and those who could read them rarer still, the sculpture was certainly the more valuable; but, as Victor Hugo beautifully expresses it, "Ceci tuera cela: le livre tuera l'Eglise." The printing-press has rendered all this of little value to the present generation, and it is only through the eyes of the artist or the antiquarian that we can even dimly appreciate what was actual instruction to the less-educated citizens of the middle ages, and the medium through which they learned the history of the world, or heard the glad tidings of salvation conveyed from God to man. All this few, if any, can fully enter into now, but without feeling it to at least some extent it is in vain to attempt to appreciate these wonderful buildings. In the middle ages the sculpture, the painting, the music of the people were all found in the cathedrals, and there only. Add to this their ceremonies, their sanctity, especially that conferred by the relics of saints and martyrs which they contained—all these things made

these buildings all in all to those who erected them and to those who worshipped in them.

The cathedral of Beauvais is generally mentioned in conjunction with that of Amiens, and justly so, not only in consequence of its local proximity, and its being so near it in date, but also from a general similarity in style. Beauvais is in fact an exaggeration of Amiens, and shows defects of design more to be expected in Germany than in France. It was commenced 5 years later than Amiens, or in 1225, and the works were vigorously pursued between the years 1249 and 1267. The dedication did not take place till 1272. The architects, in their rivalry of their great neighbour, seem to have attempted more than they had skill to perform, for the roof fell in in 1284, and when rebuilt, additional strength was given by the insertion of another pier between every two of those in the old design, which served to exaggerate the apparent height of the pier-arches. Emboldened by this, they seem to have determined to carry the clerestory to the unprecedented height of 150 ft., or about three times the width, measuring from the centre of one pier to that of the next. This, with a very long nave, a very acute vault, wide pier-spaces, and bold massive supports, might have been not only tolerable, but sublime; but as this cathedral wants all these qualities, the effect now is only that of a most extraordinary masonic *tour de force*, which, though productive of considerable wonderment among the gaping vulgar, is defective in taste and unpleasing.

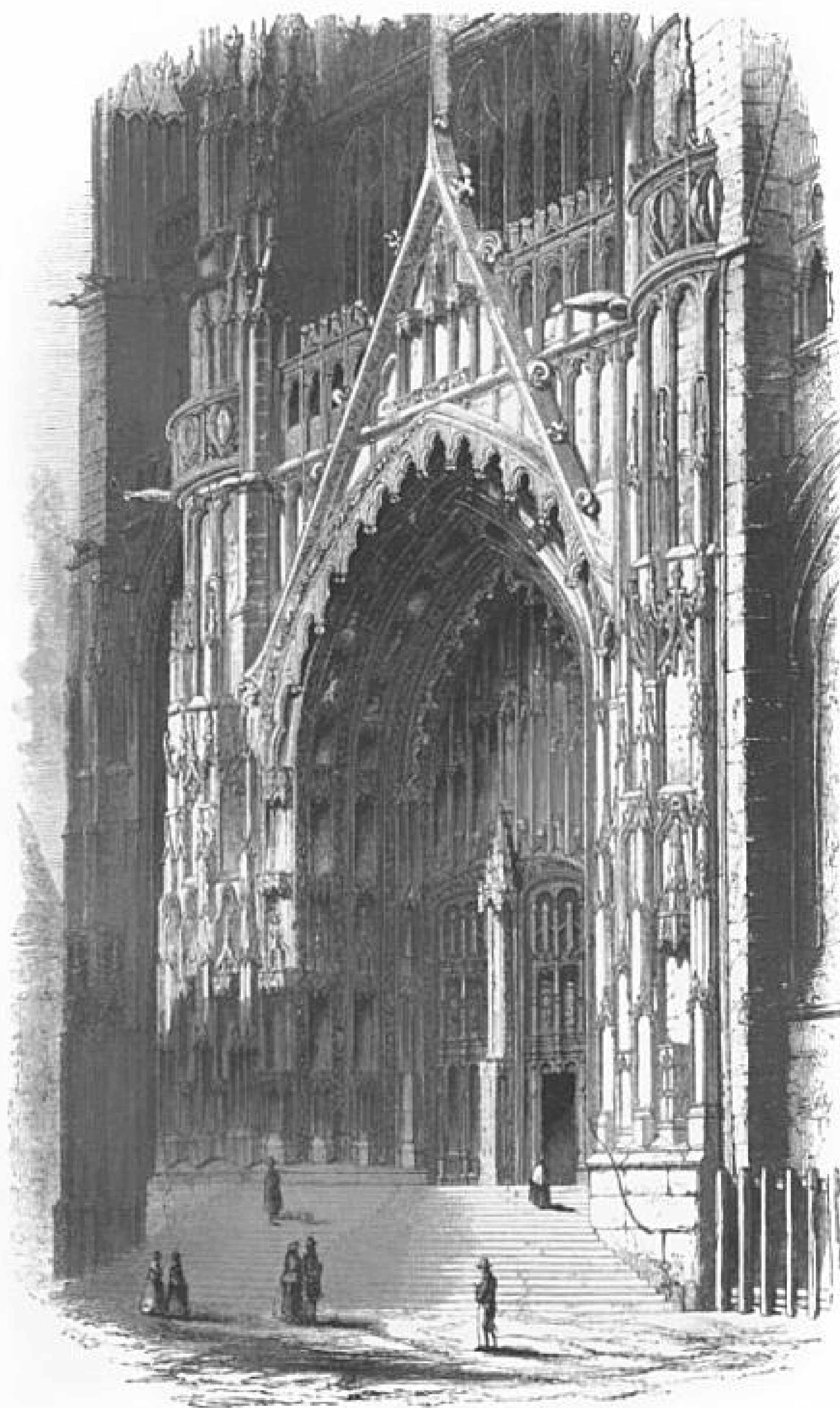


545. Bay of Nave of Beauvais Cathedral. No scale.

These defects moreover were considerably increased by the late period at which the greater part of it was built. The south transept was commenced only in 1500; the northern one 30 years later, and only finished in 1537; but even this hardly gives the date of the details, for in 1555 the architects of the building being seized with a desire of rivalling the dome of St. Peter's at Rome, which was then the object of universal admiration, undertook the construction of a spire on the intersection of the transepts, which they completed in 13 years, but which stood only 5 years from that time, having fallen down on the day of the Ascension in the year 1573. This accident so

damaged the works under it as to require considerable reconstruction, which is what we see now. This spire, of which the original drawings still exist, was 486 ft. in height; and although, as might be expected from the age in which it was erected, not of the purest design, must still have been a very noble and beautiful object, hardly inferior to that of Chartres, which was only half a century earlier.

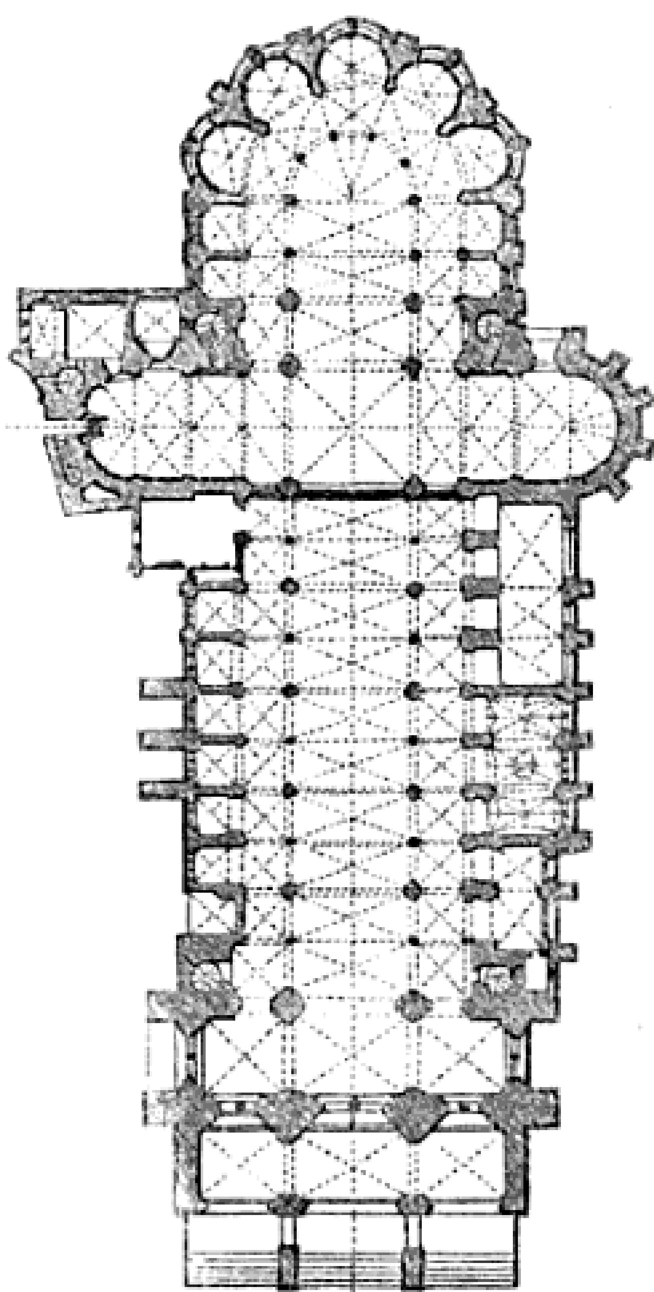
Taken altogether, the cathedral of Beauvais may be considered as an example of that "vaulting ambition that o'erleaps itself." Every principle of Gothic art is here carried to an extreme which destroys



546. Doorway, South Transept, Beauvais. From Chapuy.

the aim for which it was designed, and not only practically has caused the ruin of the building and prevented its completion, but has so far destroyed its artistic effect as to make it an example of what should be avoided rather than of what should be followed. It has all that want of repose and solidity which has often been made the reproach of Gothic architecture. Notwithstanding its size it has no majesty; and though it has stood so long it has a painful appearance of instability: its whole construction looks like props applied to prevent its falling, rather than, as in the earlier buildings, additional strength insuring durability. Even its details, as shown in the woodcut No. 546, representing one of the transepts, show an attenuation and meagreness very unusual in French architecture, and, though graceful, have neither the power of the earlier nor the richness characteristic of contemporary buildings.

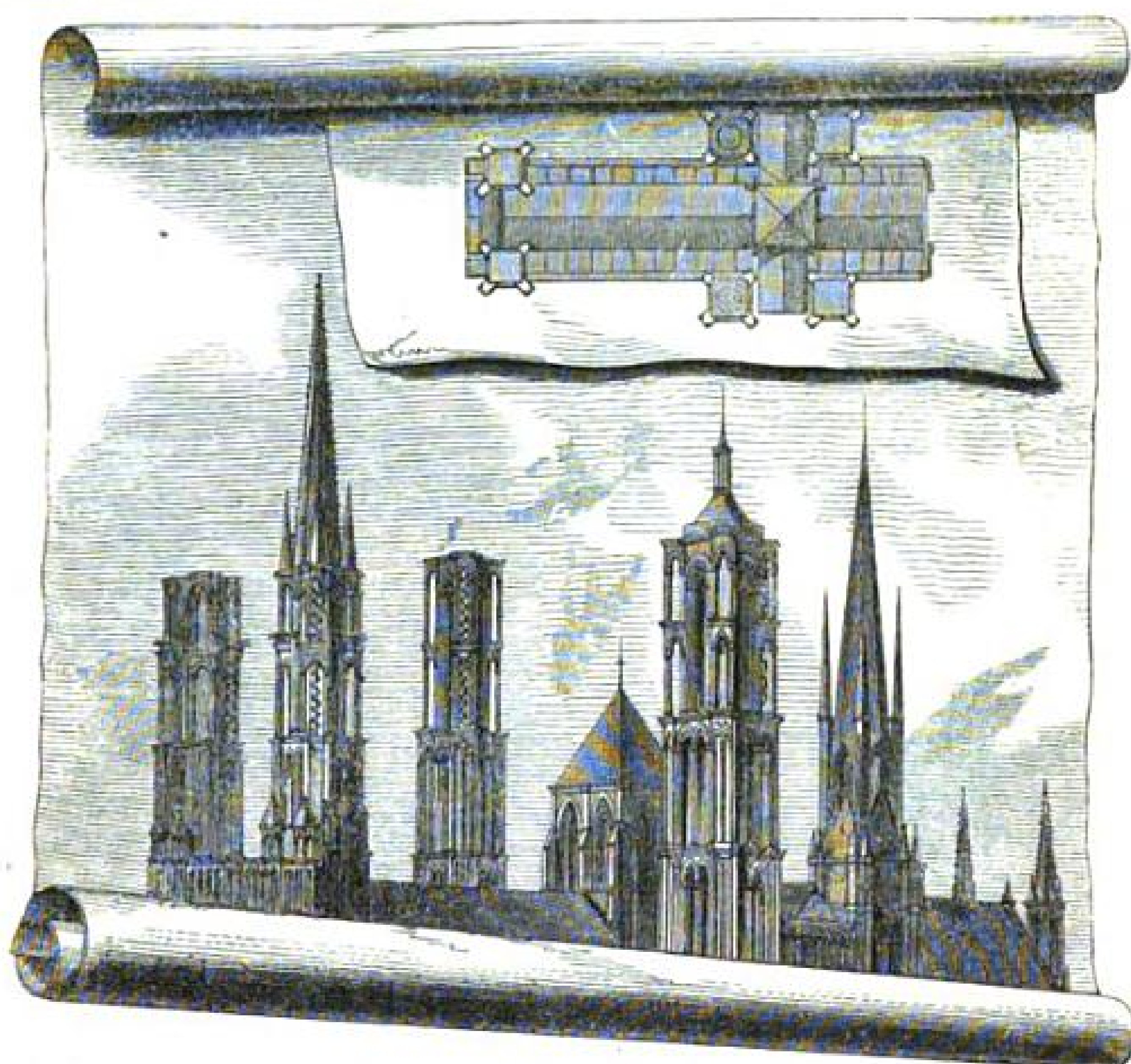
The cathedral of Noyon is an earlier example, and one of the best and most elegant transition specimens in France, having been commenced about the year 1137, and completed, as we now see it, in 1167. Here the circular arch had not entirely disappeared. This was owing to its early date, and to its situation near the German border, and its connection with the see of Tournay, with which it was long united. Like the sister church at that place, it was triapsal, which gave it great elegance of arrangement. The one defect of this form seems to be, that it does not lend itself easily to the combination of towers, which were then so much in vogue.



547. Plan of Cathedral at Noyon. From Ramée's Monographie. Scale 100 feet to 1 inch.

In singular contrast to this is the neighbouring cathedral of Laon, one of the very few in France which have no chevet. It terminates with a square east end, like an English church, except that it has there a great circular window only instead of the immense wall of glass usually adopted in this country. In style it more resembles the cathedral of Paris than any other, though covering less ground and smaller in all its features. Its great glory is its crowning group of towers. The two western (with the exception of their spires) and the two at the end of the northern transept are complete. On the southern side only one has been carried to its full height, and the central lantern is now crowned by a low pyramidal roof instead of the tall spire that

must once have adorned it; but even as they now are, the six that remain, whether seen from the immediate neighbourhood of the building, or from the plain below—for it stands most nobly on the flat top of a high isolated hill—have a highly picturesque and pleasing effect, and notwithstanding the rudeness of some of its details, and the deficiency of sculpture, it is in many respects one of the most interesting of the cathedrals of France.

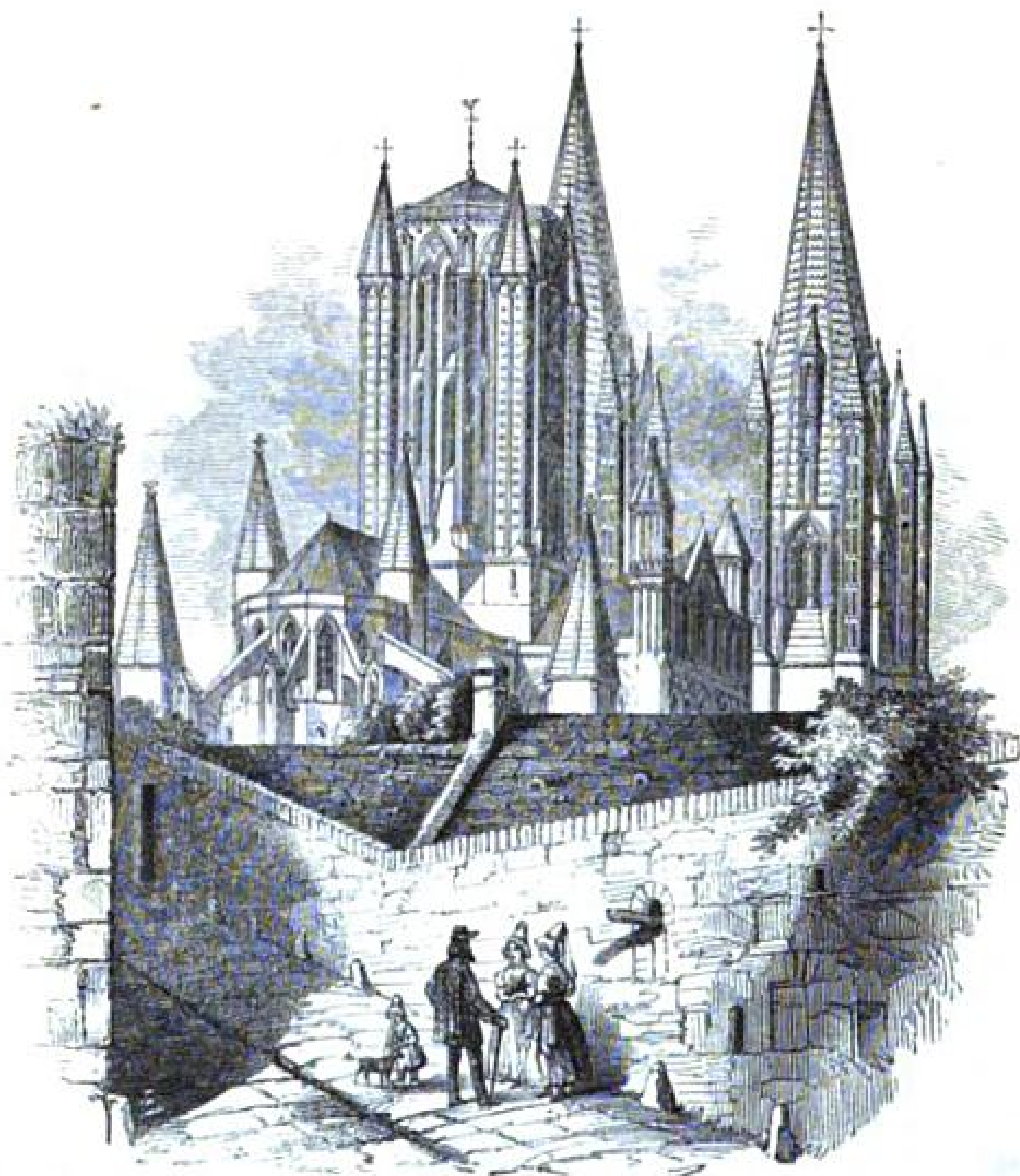


548. Spires of Laon Cathedral. From Dusomerard.

One of the earliest of the complete pointed Gothic churches of France is that of Coutances (woodcut No. 549), the whole of which belongs to the first half of the 13th century, and though poor in sculpture, makes up for this to some extent by the elegance of its architectural details, which are unrivalled or nearly so in France.

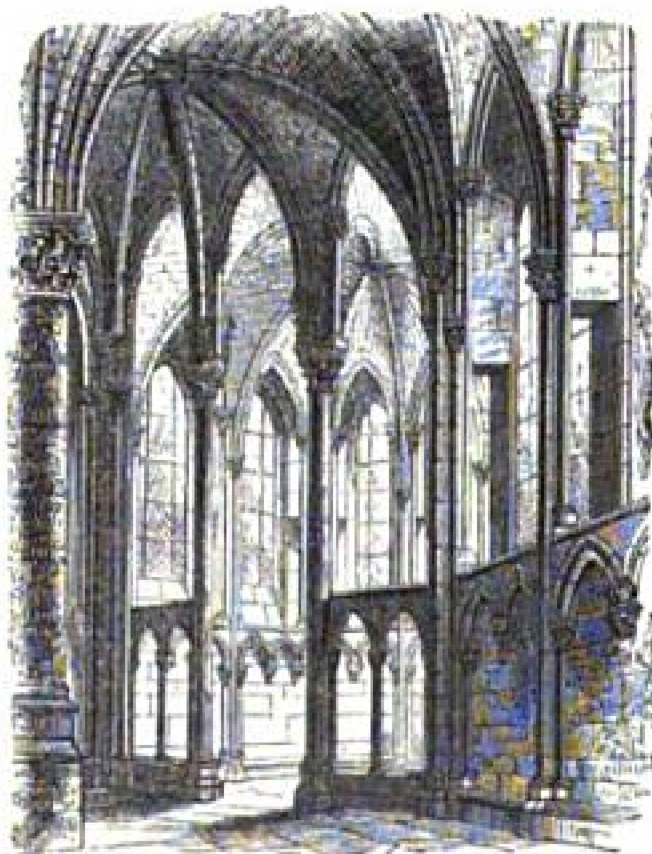
Externally it possesses two western spires, and one octagonal lantern over the intersection of the nave and transept, which, both for beauty of detail and appropriateness, is the best specimen of its class, and only wants the crowning spire to make this group of towers equal to anything on this side of the Channel.

Notre Dame de Dijon is another example of the same early and elegant age, but possessing the Burgundian peculiarity of a deeply recessed porch or narthex, surmounted by a façade of two open galleries, one over the other, exactly in the manner of the churches of Pisa and Lucca of the 11th and 12th centuries, of which it may be considered an imitation. It is, however, as unsatisfactory in pointed Gothic, even



549. View of Cathedral at Coutances. From Transactions of Institute of British Architects.

with the very best details, as it is in the pseudo-classical style of Pisa, forming in either case a remarkably unmeaning mode of decoration.

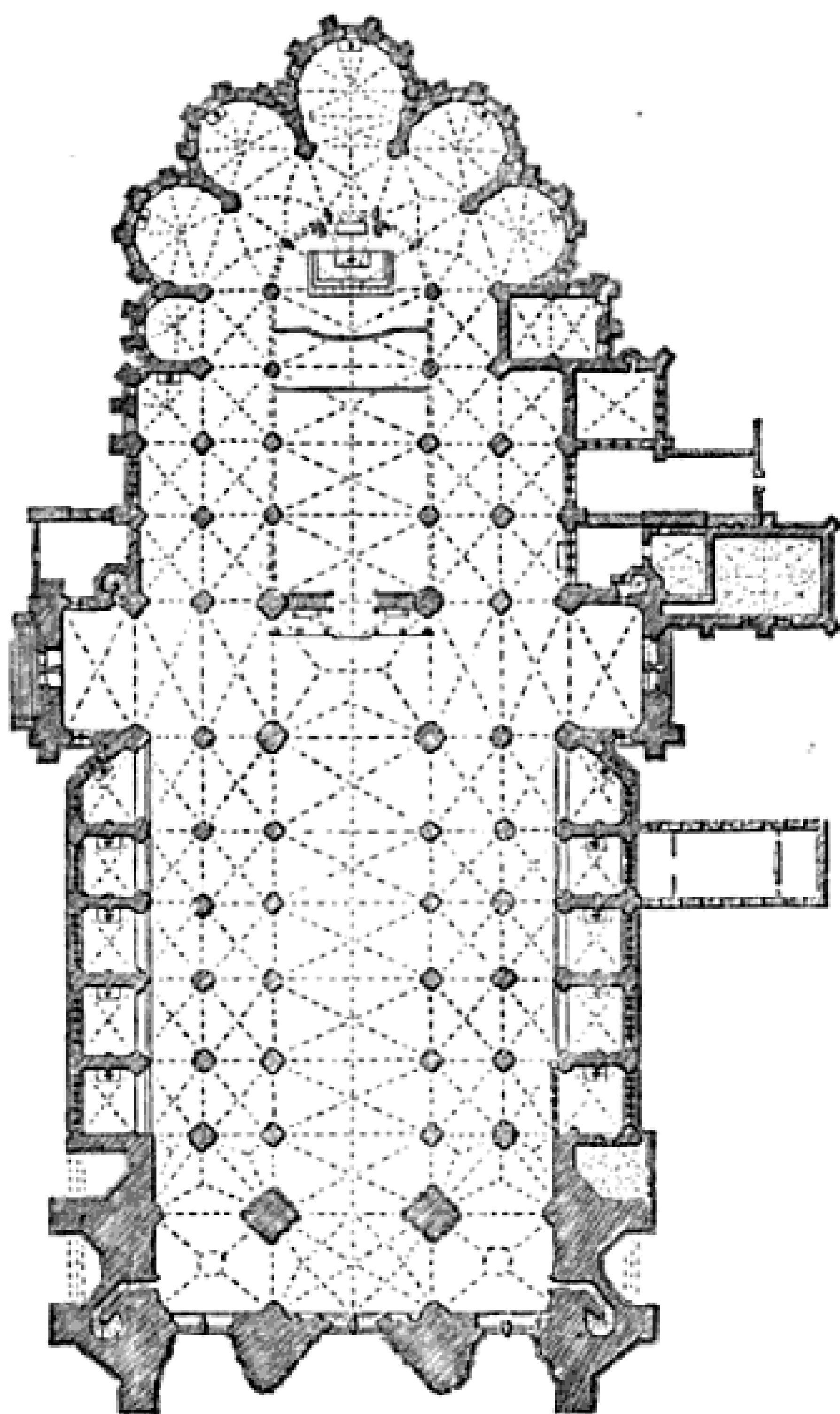


550. Lady Chapel, Auxerre. From Chapuy.

The cathedrals of Sens and Auxerre are pure examples of pointed architecture. The latter (A.D. 1213) internally rivals perhaps even Coutances. Nothing can be more elegant than the junction of the lady chapel here with the chevet; for though this is almost always pleasingly arranged, the design has been unusually successful in this instance. The two slender shafts, shown in the woodcut No. 550, just suffice to give it pre-eminence and dignity, without introducing any feature so large as to disturb the harmony of the whole.

In the great church at St. Quentin, the five chapels of the chevet have each two pillars, arranged similarly to these of the lady chapel at Auxerre; and though the effect is rich and varied, the result is not quite so happy as in this instance. Taken altogether, few chevets in France are more perfect and beautiful than this almost unknown example.

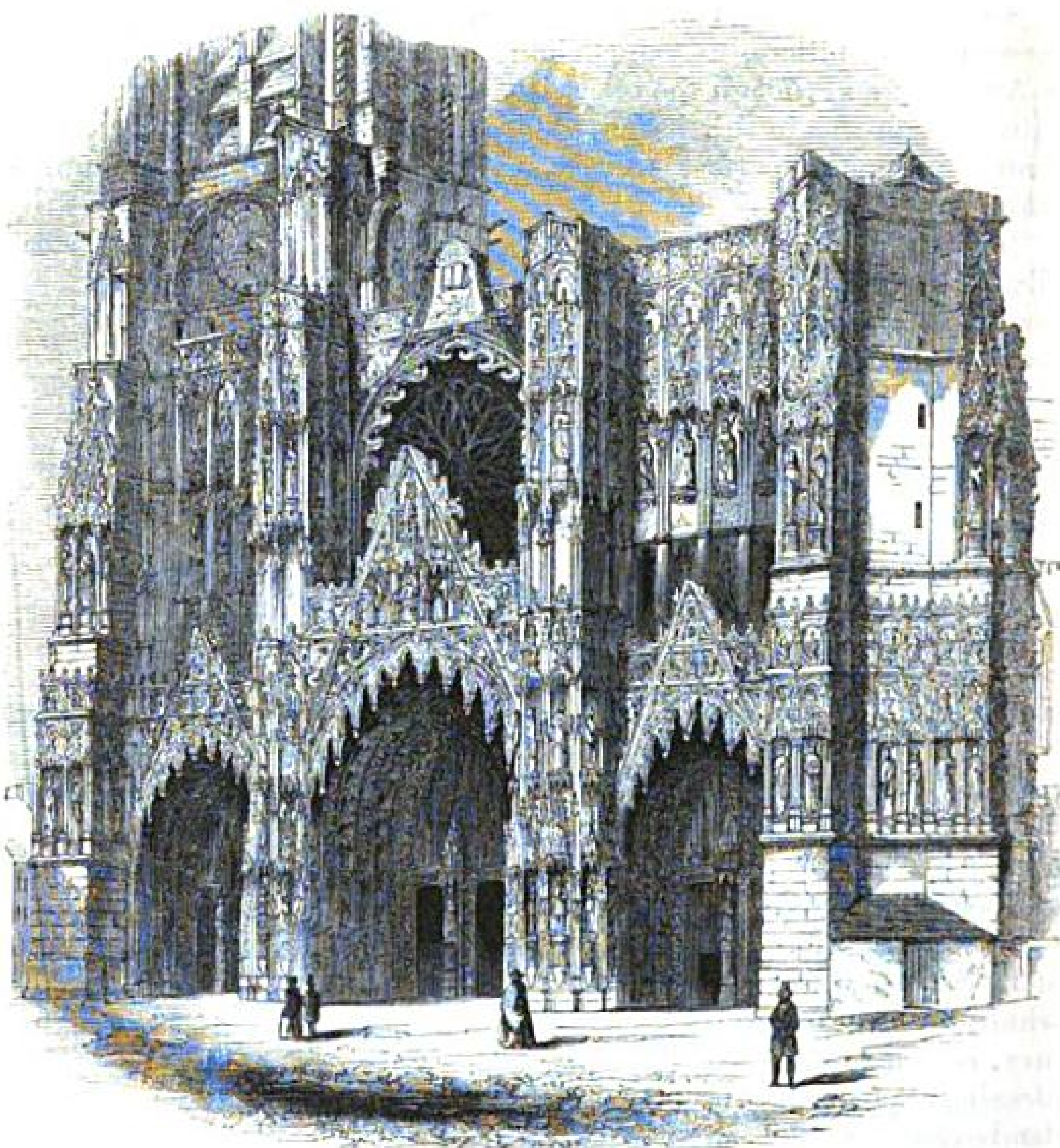
The cathedral of Troyes, commenced in 1206, and continued steadily for more than three centuries, is one of the few in France designed originally with five aisles and a range of chapels. The effect, however, is far from satisfactory. The great width thus given makes the whole appear low, and the choir wants that expansion and dignity which is so pleasing at Rheims and Chartres. Still the details and design of the earlier parts are good and elegant; and the west front (woodcut No. 552), though belonging wholly to the 16th century, is one of the most pleasing specimens of flamboyant work in France, being rich without exuberance, and without the bad taste that sometimes disfigures works of this class and age.



551. Plan of Cathedral at Troyes. From Arnaud, Voyage dans le Département de l'Aube. Scale 100 feet to 1 inch.

Soissons is perhaps the most pleasing of all these churches. Nothing can surpass the justness of the proportions of the central and side aisles both in themselves and to one another. Though the church is not large, and principally of that age—the latter half of the 13th century—in which the effect depended so much on painted glass, now destroyed or disarranged, it still deserves a place in the first rank of French cathedrals.

The two cathedrals of Toul and Tours present many points of great beauty, but their most remarkable features are their western façades, both of late date, each possessing two towers terminating in octagonal lanterns, with details verging on the style of the Renaissance, and yet



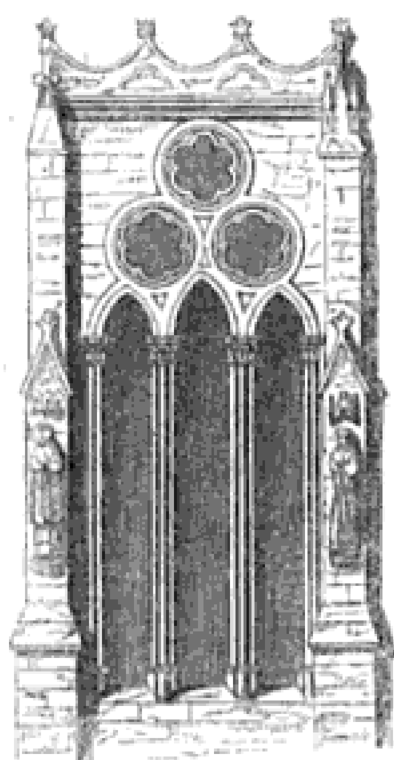
552. Façade of Cathedral at Troyes. From Arnaud.

so Gothic in design and so charmingly executed as almost to lead us to believe, in spite of the fanciful extravagance which it displays, that the architects were approaching to something new and beautiful when the mania for classical details overtook them.

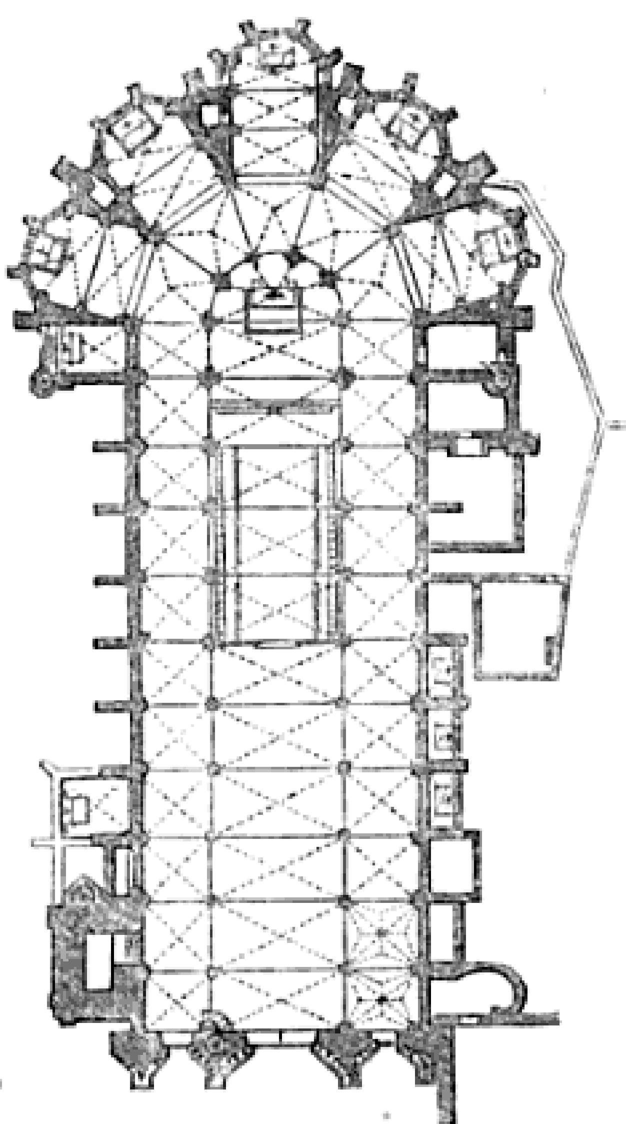
The two cathedrals of Limoges and Dijon belong to the latter half of the 13th century, and will consequently when better known fill a gap, painfully felt in the history of the art.

It would be tedious to enumerate all the great cathedrals of this country, or to attempt to describe their peculiarities; but we must not omit all mention of such as Lisieux, remarkable for its beautiful façade, and Evreux, for the beauty of many of its parts, though the whole is too much a patchwork to produce a pleasing effect. Nevers, too, is remarkable as being one of the only two double apse cathedrals in France, Besançon being the other. At Nevers this was owing to the high altar having been originally at the west, a defect felt to be intolerable in the 16th century, when the church was rebuilt, but which was done without destroying the old sanctuary. Bordeaux, already

mentioned for its noble nave without aisles, possesses a chevet worthy of it, and two spires of great beauty at the ends of the transepts, the only spires so placed, I think, in France. Autun possesses a spire on the intersection of the nave with the transepts as beautiful as anything of the same class elsewhere. The cathedral of Lyons is interesting, as showing how hard it was for the Southern people of France to shake off their old style and adopt that of their Northern neighbours. With much grandeur and elegance of details, it is still so clumsy in design, that neither the whole nor any of its parts can be considered as satisfactory. The windows, for instance, as shown in the woodcut (No. 553), look more like specimens of the carpenter's Gothic of modern times than examples of the art of the middle ages.


553. Window of Cathedral at Lyons. From Peyre, Manuel de l'Architecture.

There still remains to be mentioned the cathedral at Rouen. This remarkable building possesses parts belonging to all ages, and exhibits most of the beauties, and also, it must be confessed, most of the defects of the style. It was erected with a total disregard to all rule, yet so splendid and so picturesque that we are almost driven to the wild luxuriance of nature to find anything to which we can compare it. Internally its nave, though rich, is painfully cut up into small parts. The undivided piers of the choir, on the contrary, are too simple for their adjuncts. Externally, the transept towers are beautiful in themselves, but are overpowered by the richness of those of the west front. The whole of that façade, in spite of the ruin of some of its most important features, and the intrusion of much modern vulgarity, may be called a romance in stone, consisting of a profusion of the most playful fancies. Like most of the cathedrals near our shores, that of Rouen was designed to have a central spire ; this, however, was not completed till late in the cinque-cento age, and then only in vulgar woodwork, meant to imitate stone. That being destroyed, an attempt has lately

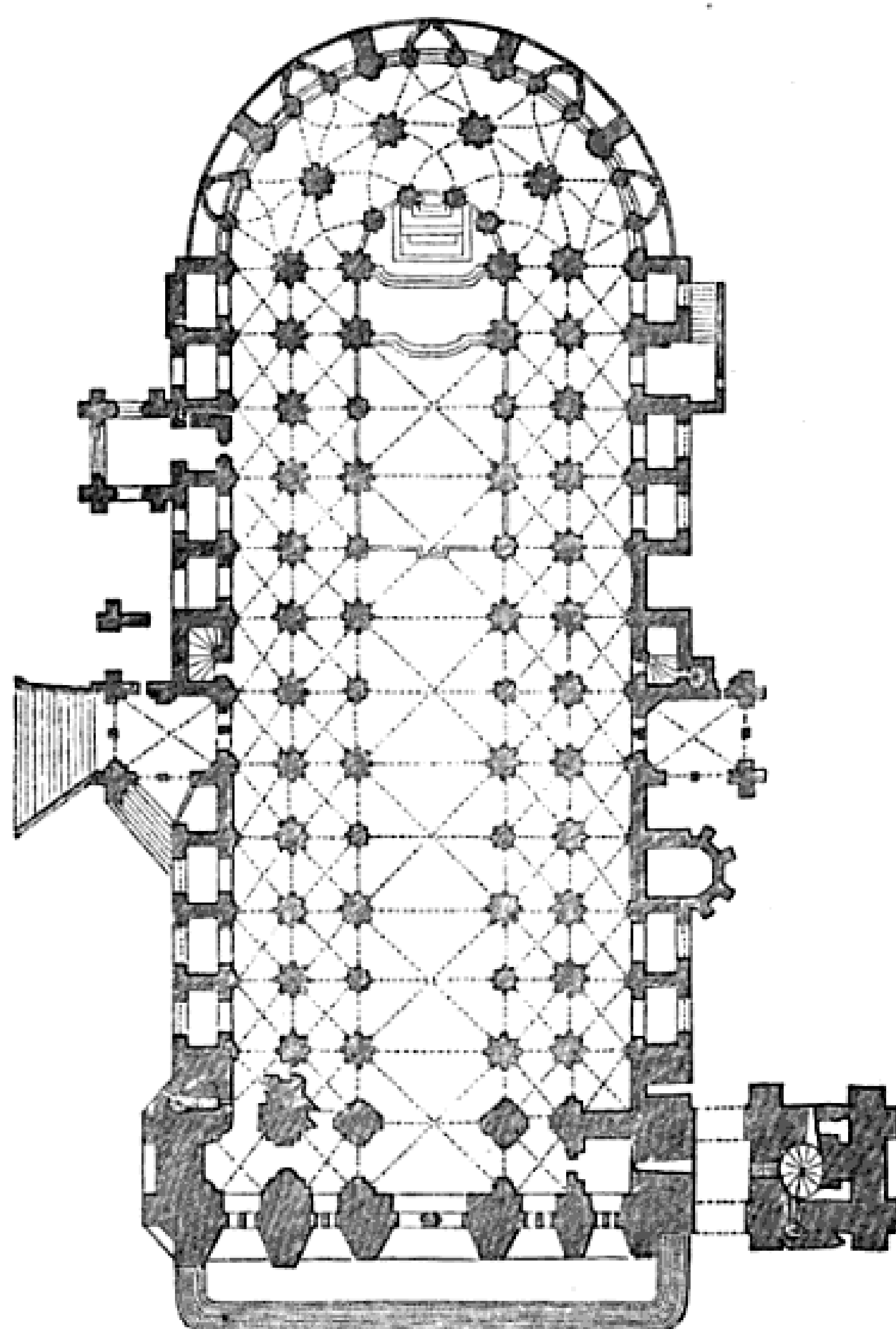

554. Plan of Cathedral at Bazas. From Lamothe.[1]
Scale 100 feet to 1 inch.

[1] Compte Rendu des Travaux de la Commission des Monumens, &c. : Rapport présenté au Préfet de la Gironde, 1848 *et seq.*

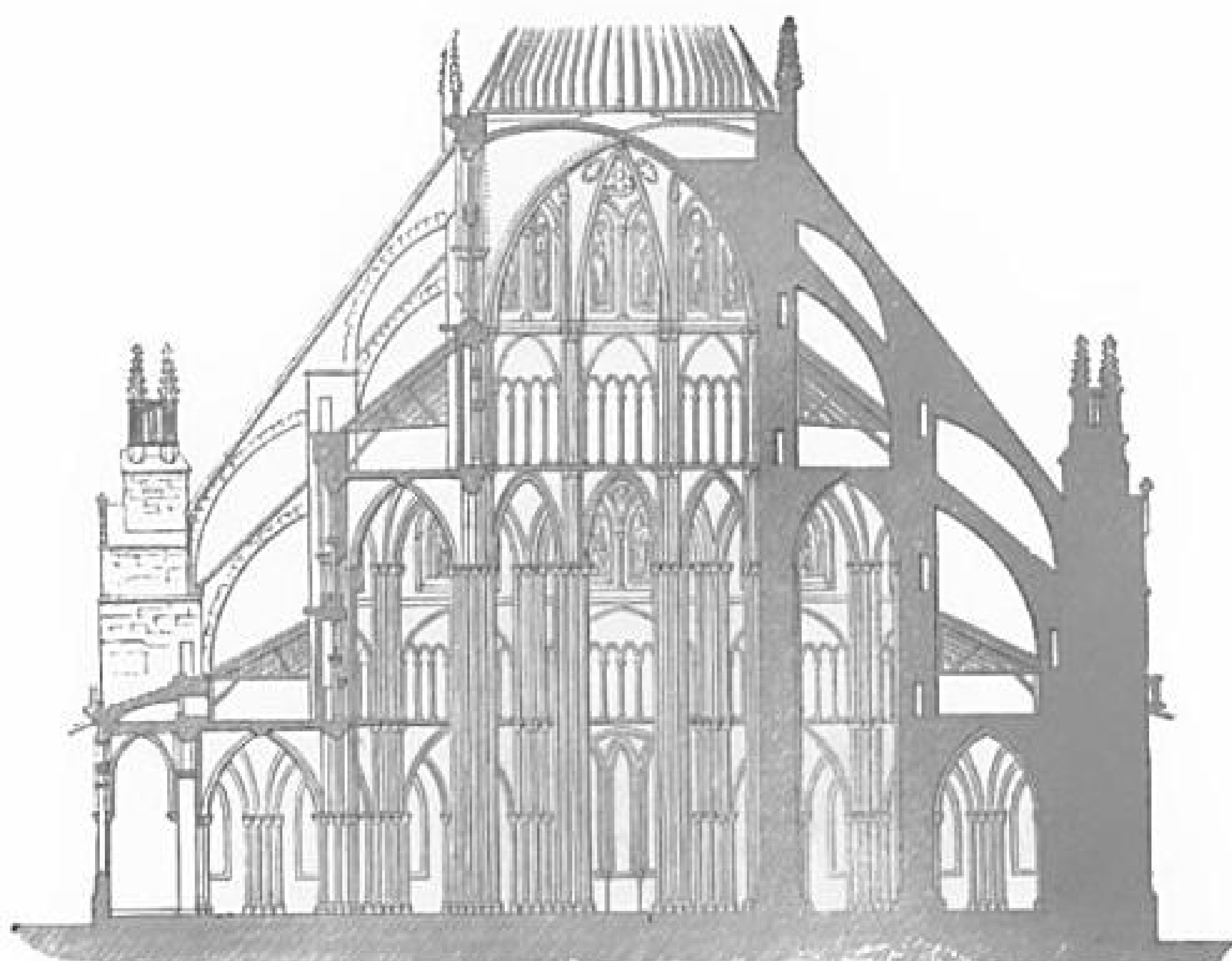
been made to replace it by still more vulgar iron-work, leaner and poorer than almost anything else of modern times.

In the preceding pages, all mention of the cathedrals of Bazas and Bourges has been purposely omitted, because they belong to a different type from the above. The first (woodcut No. 554) is one of the most perfect specimens of the pure Gothic style in the south of France. Its noble triple portal, filled with exquisite sculpture, and its extensive chevet, make it one of the most beautiful of its class. It shows no trace of a transept, a peculiarity, as before pointed out, by no means uncommon in the South. This, though a defect as far as external effect is concerned, gives great value to the internal dimensions, the appearance of length being far greater than when the view is broken by the intersection of the transept.

This is still more striking at Bourges, where the cathedral, though one of the finest and largest in France, covering 73,170 square feet, is still one of the shortest, being only 405 ft. in extreme length; yet, owing to the central aisle being wholly unbroken, it appears one of the longest, as it certainly is one of the most majestic of all. This cathedral possesses also another Southern peculiarity of more questionable advantage, in having five aisles in three different heights. The section (woodcut No. 556) will explain this. The central aisle is 117 ft. in height, those next to it 66 ft. high, the two outer only 28. These last appear to destroy the harmony of the whole, for on an inspection of the building, the outer aisles do not appear to belong to the design, but look more like afterthoughts. At Milan, Bologna, and other places in Italy, where this gradation is common, this



555. Plan of Cathedral at Bourges. From Girardot, Description de la Cathédrale. Scale 100 feet to 1 inch.



556. Section of Cathedral at Bourges. From drawings by F. Penrose, Esq., Architect. Scale 50 feet to 1 inch.

mistake is avoided, and the effect proportionably increased; and except that it does not admit of such large window spaces, I am not quite sure if such a method would not be preferable to the usual one. This arrangement of the aisles was never again fairly tried in France; but even as it is, the cathedral of Bourges must rank after the four first mentioned as the finest and most perfect of the remaining edifices of its class in that country. It is singularly beautiful in its details, and happy in its main proportions; for owing to the omission of the transept, the length is exquisitely adapted to the other dimensions. Had a transept been added, at least 100 ft. of additional length would have been required to restore the harmony; and though externally it would no doubt have gained by such an adjunct, this gain would not have been adequate to the additional expense incurred.

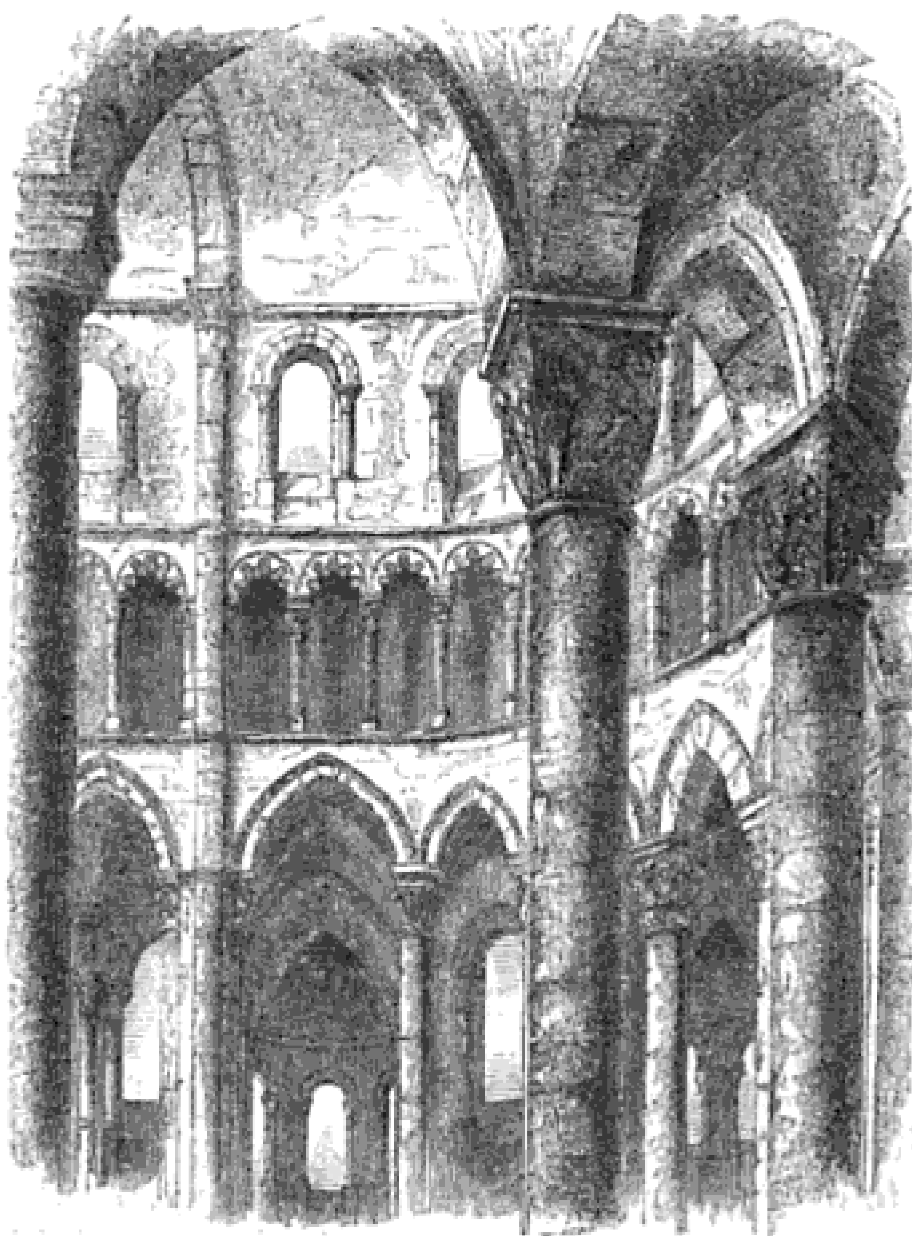
The greater part of the western façade of this cathedral is of a later date than the building itself, and is extended beyond the proportions required for effect so as to overpower the rest of the building, so that it is only from the sides or the eastern end that all the beauty of this church can be appreciated.

As far as regards size or richness of decoration, the cathedral of Orleans deserves to rank as one of the very first in France, and is remarkable as the only Gothic cathedral erected in Europe since the middle ages. The original church on this site having been destroyed by the Calvinists, the present building was commenced in the year 1601 by Henry IV. of France, and although the works proceeded at first with great vigour, and the work was never wholly discontinued, it is even now hardly completed.

Considering the age in which it was built, and the contemporary

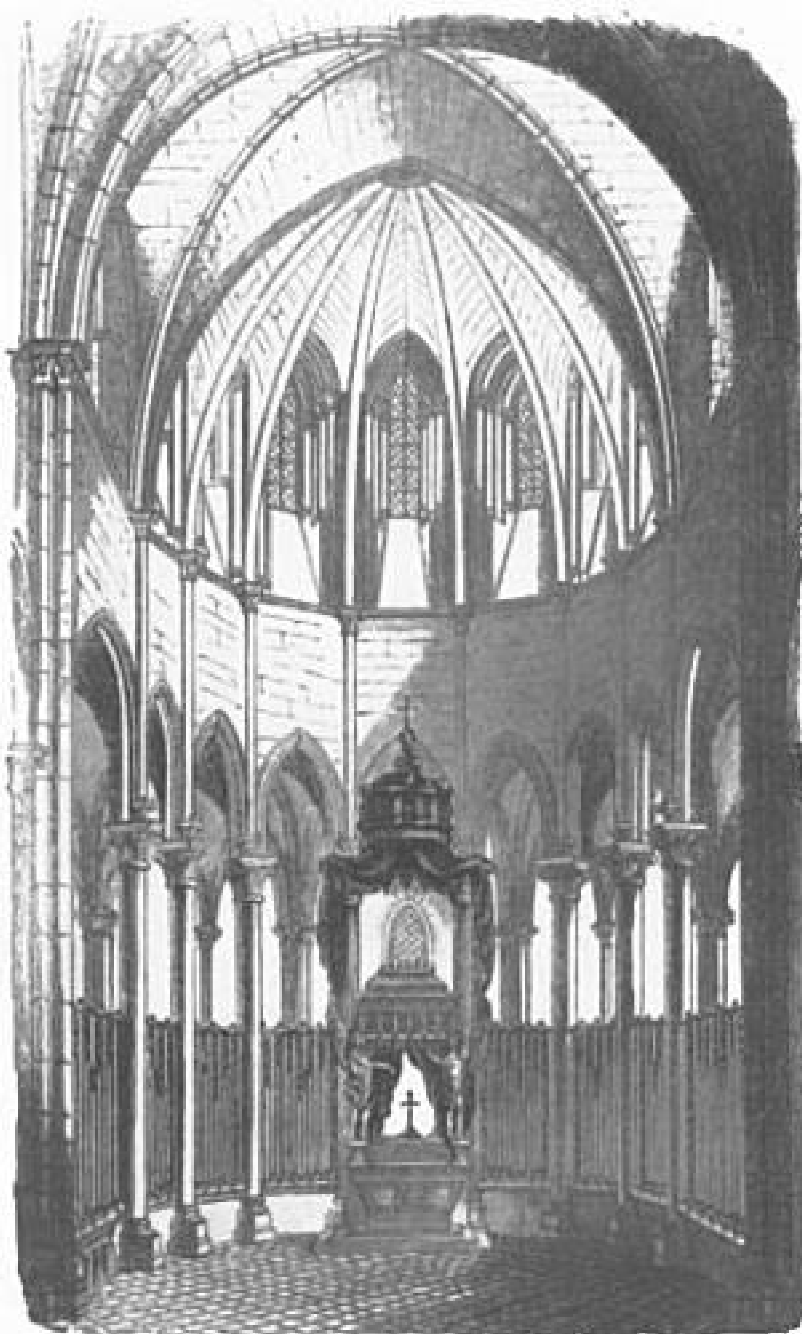
specimens of so-called Gothic art erected in France and England, it is wonderful how little of classical admixture has been allowed to creep into the design of this building, and how nearly it follows in all essentials the style it professes to imitate. In plan, in arrangement, and indeed in details, it is so correct, that it requires considerable knowledge to define the difference between this and an older building of the same class. Still there is a wide difference, which makes itself felt, though not easy to be described. It consists in the fact that the old cathedrals were built by men who had a true perception of their art; while the modern example only bears evidence of a well learnt lesson distinctly repeated, but without any real feeling for the subject. This want betrays itself in an unmeaning repetition of parts, in a deficiency of depth and richness, and a general poverty of invention.

It would not be difficult to select out of the collegiate churches of France as complete a series as of the cathedrals, though inferior in size. But having already gone through the one class of buildings, we must confine ourselves to a brief notice of the other. The church of Charité sur Loire was one of the most picturesque and beautiful in France. It is now partially ruined, though still retaining enough of its original features to illustrate clearly the style to which it belongs. Originally the church was about 350 ft. in length by 90 in breadth. One tower of the western front, one aisle, and the whole of the choir still remain, and belong without doubt to the church dedicated in 1106 by Pope Pascal. The presence of the pointed form in the pier arches and vaults has induced some to believe that it belongs to the age of Philip Augustus, about a century later, when the church was restored after a great fire. Its southern position, however, the circumstance of its being the earliest daughter church of the abbey of Cluny, and the whole style of the building are proofs of its earlier age. All the decorative parts, and all the external openings, still retain the circular form as essentially as if the other had never been invented.


557. View in the Choir of Charité sur Loire. From a sketch by the Author.

The most remarkable feature in this church is the exuberance of ornament with which all the parts are decorated, so very unlike the massive rudeness of the contemporary Norman or Northern styles. The capitals of the pillars, the arches of the triforium, the jambs of the windows and the cornices, all show a refinement and love of ornament characteristic of a far more advanced and civilized people than those of the northern provinces of France.

Among those who were present at the dedication of this church was the Abbé Suger, then a gay young man of 20 years of age, who about 30 years later in the plenitude of his power commenced the building of the abbey of St. Denis, near Paris, the west front of which was dedicated in the year 1140, and the rest of the church built "stupendâ celeritate," and dedicated in 1144. This, though certainly not the earliest, may be considered as the typical example of the earliest pointed Gothic in France. It terminated the era of transition, and fixed the epoch when the Northern pointed style became supreme, to the total exclusion of the round arched style that preceded it. The effect of Suger's church is now destroyed by a nave of the 14th century—of great beauty it must be confessed—which is interpolated between the western front and the choir, both which remain in all essentials as left by him, and enable us to judge without a doubt of the state of the art at the time of the dedication of the church.



558. Chevet, Pontigny. From Chaillou des Barres.

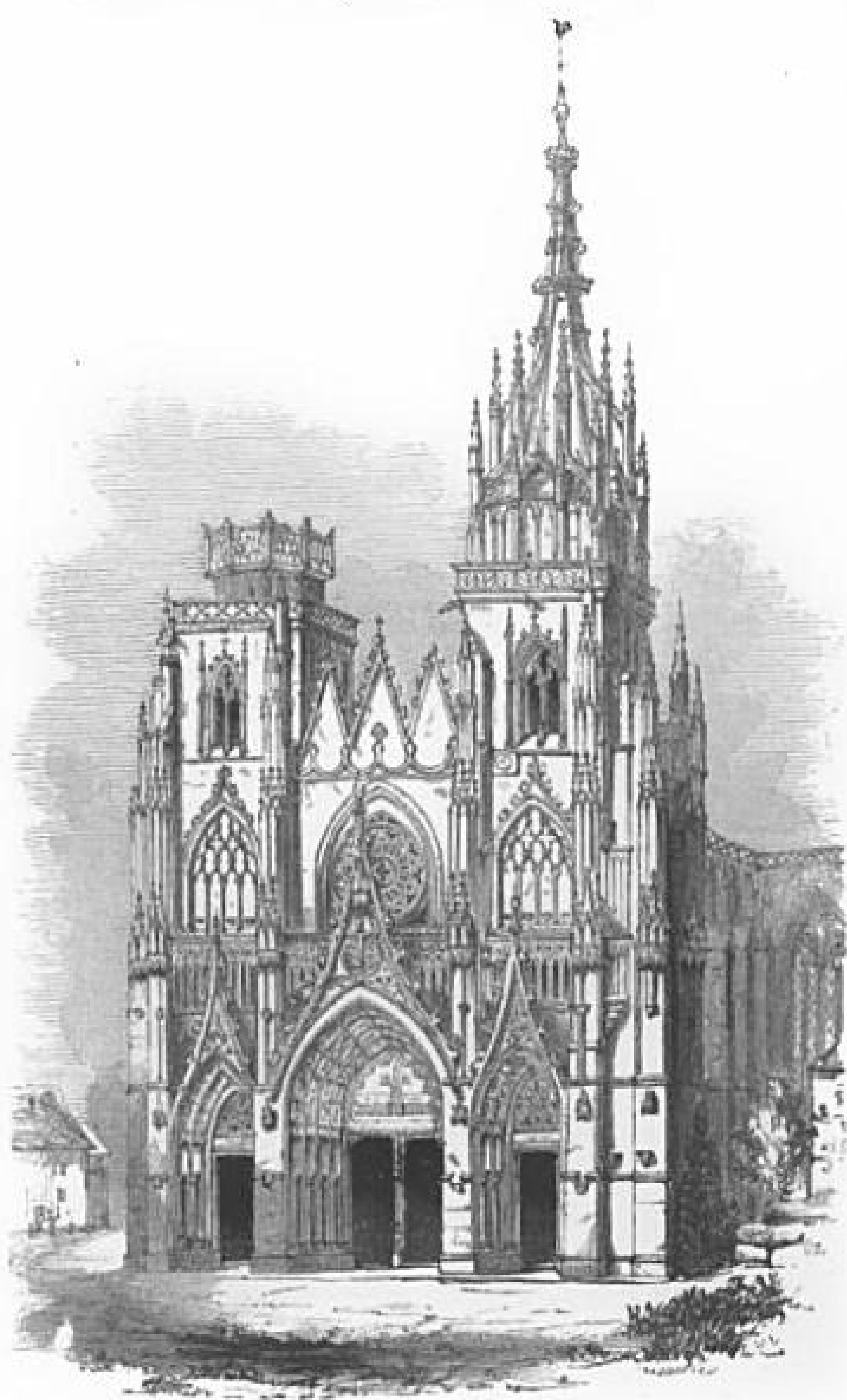
A few years later was commenced the once celebrated abbey of Pontigny, near Auxerre, probably in 1150, and completed, as we now find it, within 15 or 20 years from that date.

Externally it displays an almost barn-like simplicity, having no towers or pinnacles—plain undivided windows, and no ornament of any sort. The same simplicity reigns in the interior, but the varied form, and play of light and shade, here relieve it to a sufficient extent, and make it altogether, if not one of the most charming examples of its age, at least one of the most instructive, as showing how much effect can be obtained with the

smallest possible amount of ornament. In obedience to the rules of the Cistercian order, it neither had towers nor painted glass, which last circumstance perhaps adds to its beauty, as we now see it, for the windows being small, admit just light enough for effect, without the painful glare that now streams through the large mullioned windows of the cathedral of Auxerre.

To the Englishman, Pontigny should be more than usually interesting, as it was here that the three most celebrated archbishops of Canterbury, Becket, Langton, and Edmund, found an asylum when driven by the troubles of their native land to seek a refuge abroad, and the bones of the last-named sainted prelate are said still to remain in the *châsse*, represented in the woodcut, now and for centuries the great object of worship here.

About a century after the erection of these two early specimens, we have two others whose dates are ascertained, which exhibit the pointed style in its greatest degree of perfection. The first, the Sainte Chapelle in Paris, was commenced in 1241, and dedicated in 1244; the other, the church of St. Urban at Troyes, was begun in 1262, and the choir and transept completed in 1266. Both are only fragments — choirs to which it was originally intended to add naves of considerable extent. The proportions of the Sainte Chapelle are in consequence somewhat too tall and short; but the noble simplicity of its design, and the majesty of its tall windows, which still retain a great portion of their painted glass, and the beauty of all its details, render it one of the most perfect examples of the style at its culminating point in the reign of St. Louis.

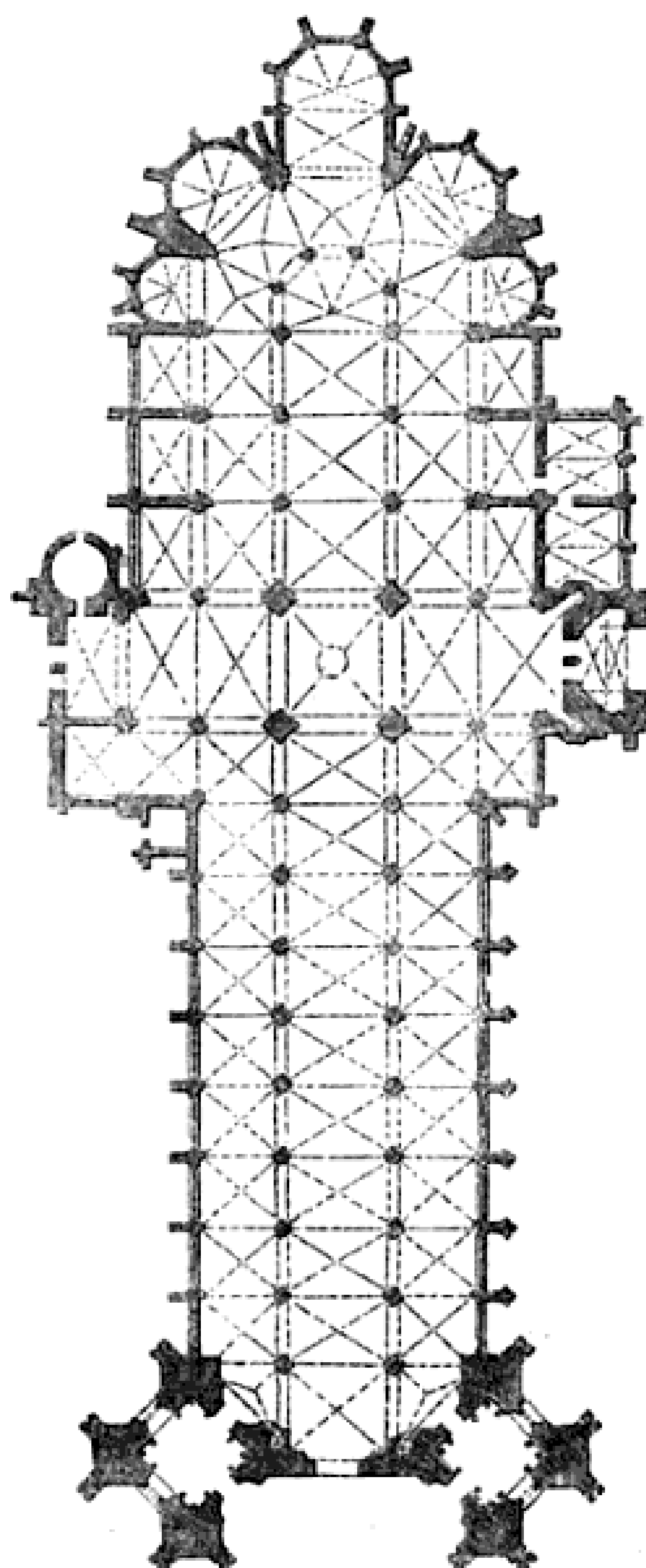


559. West Front of St. Marie de l'Epine. From Dusomerard.

The other was founded by Pope Urban IV., a native of Troyes, and would have been completed as a large and magnificent church, but for the opposition of some contumacious nuns, who had sufficient power and influence even in those days to thwart the designs of the Pope himself. Its great perfection is the beauty of its details, in which it is unsurpassed by anything in France or in Germany; its worst defect a certain exaggerated temerity of construction, which shows how fast, even then, architecture was passing from the hands of the true artist into those of the mason, whose attempts to astonish by wonders of construction then, and ever afterwards, completely marred the progress of the art which was thought to be thereby promoted.

About seventy years after this we come to the choir of St. Ouen, and to another beautiful little church, St. Marie de l'Epine, near Châlons sur Marne, commenced apparently about 1329, though not completed till long afterwards. It is small—a miniature cathedral in fact—like our St. Mary Redcliffe, which in many respects it resembles, but is a perfect bijou of its class. One western spire remains, the other was destroyed to make room for a telegraph. It is not only beautiful in itself, but interesting as almost the only example of an open-work spire in France.

The church of St. Ouen, at Rouen, was beyond comparison the most beautiful and perfect of the abbey edifices of France. This was commenced by Marc d'Argent in the year 1318, and carried on uninterruptedly for 21 years. At his death the choir and transepts were completed, or very nearly so. The English wars interrupted at this time the progress of this, as of many other buildings, and the works of the nave were not seemingly resumed till about 1490, and 25 years later the beautiful western front was commenced.

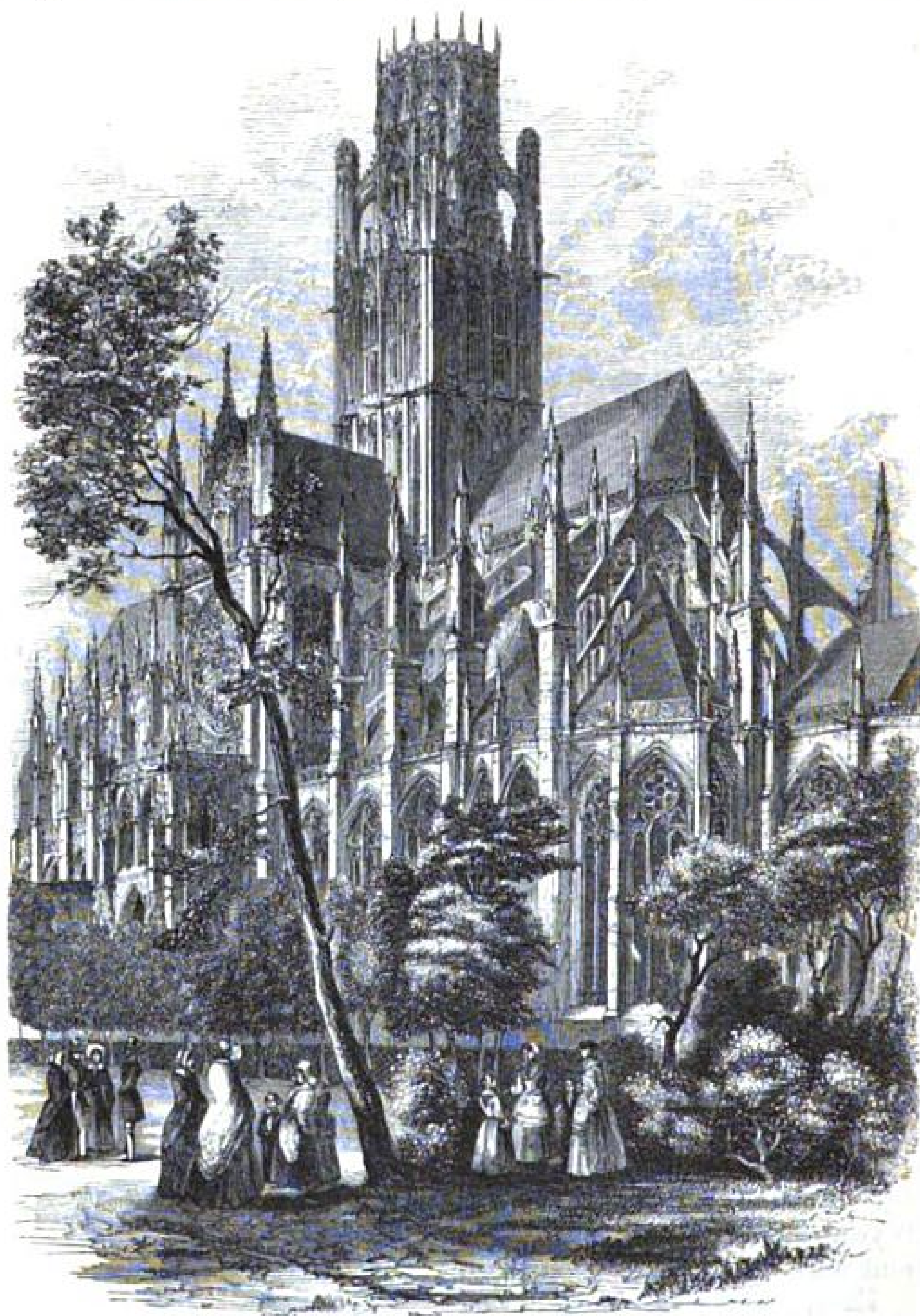


560. Plan of Church of St. Ouen at Rouen. From Peyrée's Manuel. Scale 100 ft. to 1 in.

Except that of Limoges, the choir is almost the only perfect building of its age, and being nearly contemporary with the choir at Cologne (1276 to 1321), affords a means of comparison between the two styles of Germany and France at that age, and entirely to the advantage of the French example; which,

though very much smaller, avoids all the more glaring faults of the other.

Nothing indeed can exceed the beauty of proportion of this most elegant church; and except that it wants the depth and earnestness of

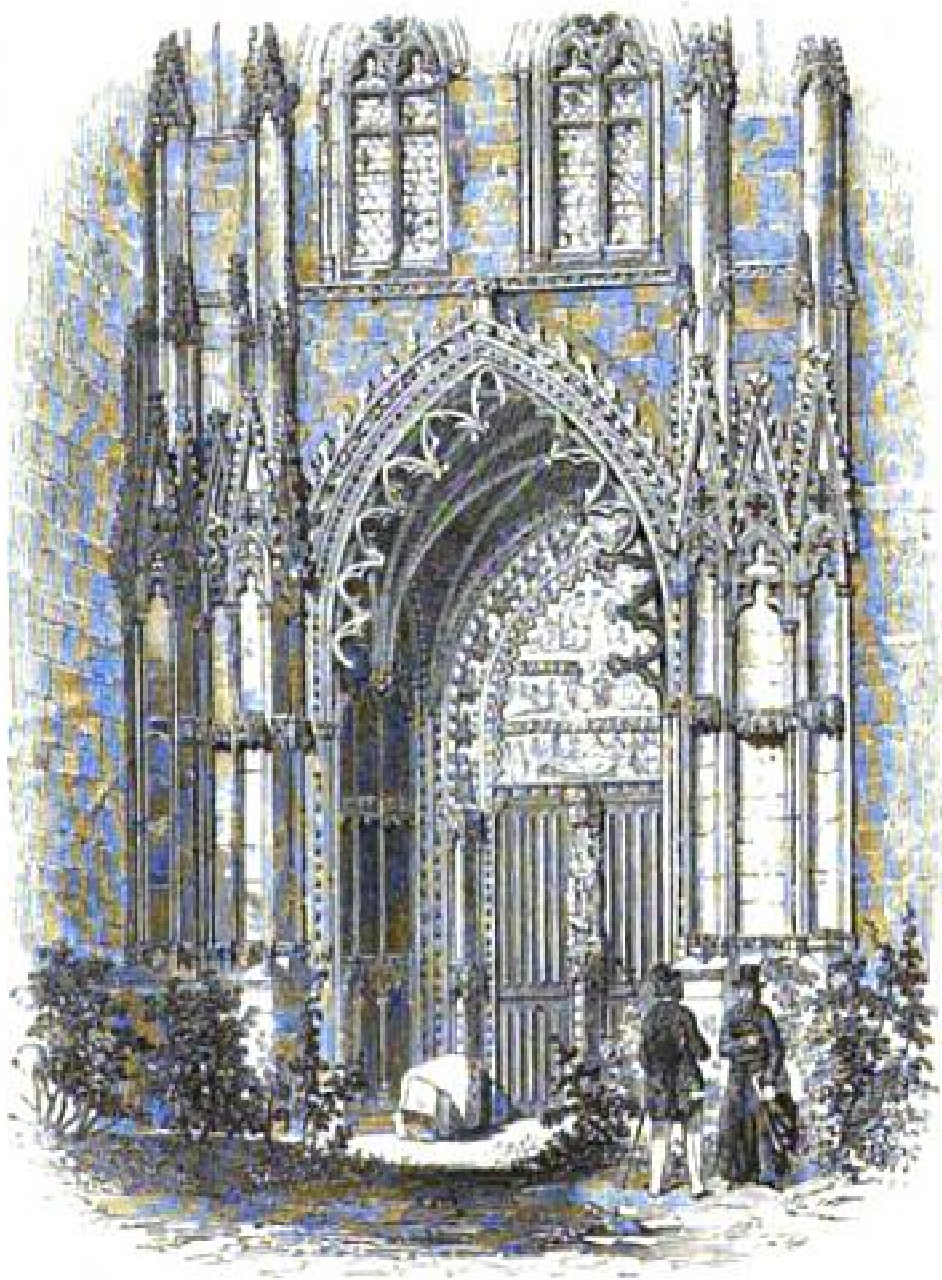


561. Church of St. Ouen at Rouen, from the S.E. From Chapuy.

the earlier examples, it may be considered as the most beautiful thing of its kind in Europe. The proportion too of the nave, transepts, and choir to one another is remarkably happy, and a most striking contrast to the very imperfect proportions of Cologne. Its three towers also

would have formed a perfect group as originally designed, but the central one was not completed till so late, that its details have lost the aspiring character of the building on which it stands, and the western spires, as rebuilt within the last ten years, are incongruous and inappropriate; whereas had the original design been carried out according to the drawings which still exist, it would have been one of the most beautiful façades known anywhere. The diagonal position of the towers met most happily the difficulty of giving breadth to the façade without placing them beyond the line of the aisles, as is done in the cathedral of Rouen, and at the same time gave a variety to the perspective which must have had the most pleasing effect. Had the idea occurred earlier, few western towers would have been placed otherwise; but the invention came too late, and in modern times the very traces of the arrangement have been obliterated.

The style of the choir of this church may be fairly judged from the view of the southern porch (woodcut No. 562). This has all that perfection of detail which we are accustomed to admire in Cologne Cathedral, and the works of the time of our second Edward, combined with a degree of lightness and grace peculiar to this church. The woodcut is too small to show the details of the sculpture in the tympanum above the doors, but that too is of exquisite beauty, and being placed where it can be so well seen, and at the same time so perfectly protected, it heightens the architectural design without in any way seeming to interfere with it. This is a somewhat rare merit in French portals. In most of these it is evident that the architect has been controlled in his design in order to make room for the immense quantity of sculpture which usually crowds them. On the other hand, the position of the figures is often forced and constrained, and the bas-reliefs nearly unintelligible, from the architect having been unable



562. Southern Porch of St. Ouen's at Rouen. From Chapuy.

to give the sculptor that free space which was requisite for the full development of his ideas.

It would be easy to select numerous examples from the collegiate and parish churches of France to extend this series. Our limits will not, however, admit of the mention of more than one other instance. The sepulchral church of Brou en Bresse was erected from 1511 to 1536, by Margaret of Austria, daughter of Maximilian, and aunt of Charles V., emperor of Germany. It was therefore nearly contemporary with Henry VII.'s Chapel at Westminster, and thus affords the means of comparison between the English and French styles of the day, which is wholly in favour of our own: both are the most florid specimens of their class in either country, but at Brou, both externally and internally, all majesty of form and constructive propriety are lost sight of; and though we wonder that stone could be cut into such a marvellous variety of lace-like forms, and are dazzled by the splendour of the whole, it is with infinite pleasure that we turn from these elaborate specimens of declining taste to an earlier and purer style. Fascinating as some of these late buildings undoubtedly are from the richness of decorative fancy that reigns in every detail, still they can only be regarded as efforts of the arts of the carver and stonemason, and not of the architect or sculptor properly so called.

In the city of Rouen we also find the beautiful church of St. Maclou (1432–1500), a gorgeous specimen of the later French style, presenting internally all the attenuation and defects of its age; but in the five arcades of its beautiful western front it displays one of the richest and most elegant specimens of Flamboyant work in France. It also shows what the façade of St. Ouen would have been if completed as designed. This church once possessed a noble central tower and spire, destroyed in 1794. When all this was complete, few churches of its age could have competed with it.

St. Jacques at Dieppe is another church of the same age, and possessing the same lace-like beauty of detail and elaborate finish, which charms in spite of soberer reason, that tells us it is not in stone that such vagaries should be attempted. Abbeville, St. Riquier, and all the principal towns throughout that part of France are rich in specimens of the late Gothic, of which we are now speaking. These specimens are beautiful in many respects, but in almost all inferior to those of the glorious epoch which preceded.

CHAPTER X.

CONTENTS.

Gothic details — Pillars — Windows — Circular windows — Bays — Vaults — Buttresses — Pinnacles — Spires — Decoration — Construction — Furniture of churches — Domestic architecture.

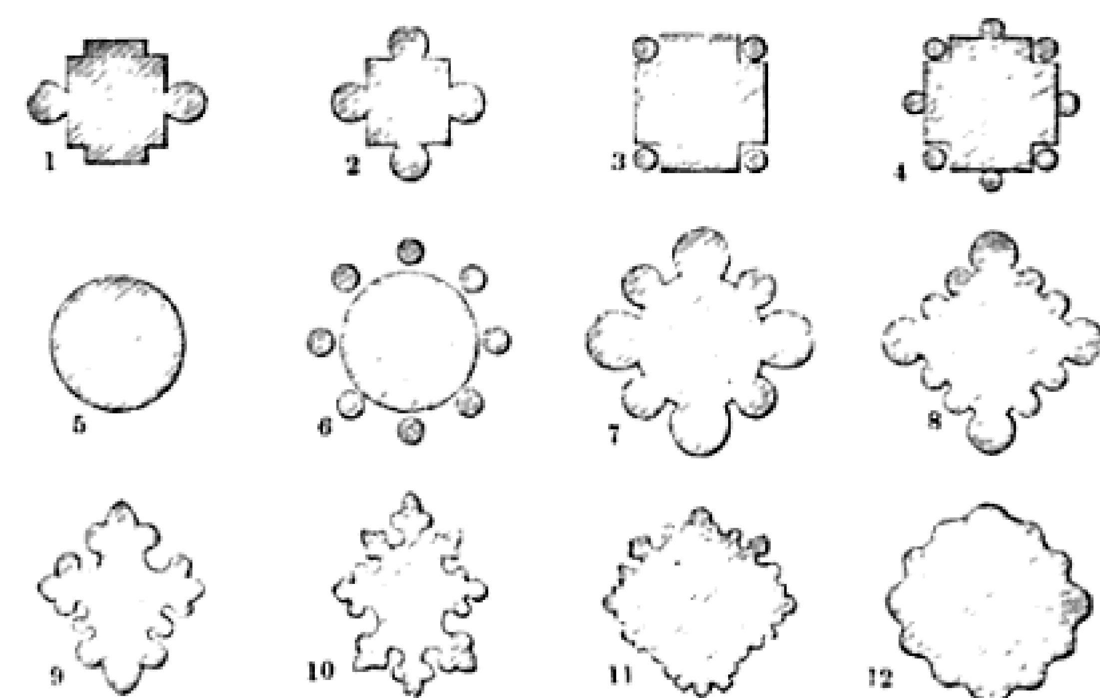
ALTHOUGH in the preceding pages, in describing the principal churches of France, mention has been made of the various changes of detail which took place from the time of the introduction of the pointed style till its abandonment in favour of the revived classical, still it seems necessary to recapitulate the leading changes that were introduced. This will be most fitly done before we leave the subject of French architecture, that being on the whole the most complete and harmonious of all the pointed styles, as well as the earliest.

PILLARS.

Of these details, the first that arrests the attention of the inquirer is the form of the pillars or piers used in the middle ages, inasmuch as it is the feature that bears the most immediate resemblance to the typical forms of preceding styles. Indeed, the earlier pillars in the round arched style were virtually rude imitations of Roman originals, made so thick and heavy as to bear without apparent stress the whole weight of the arches they supported, and of the superincumbent wall. This increase of the weight laid upon the pillars, and consequently in their strength and heaviness, was the great change introduced into the art of building in the early round Gothic style. With the same requirements the classic architects either must have thickened their pillars immensely, or coupled them in some way. Indeed the Romans, in such buildings as the Colosseum, placed the pillars in front and a pier behind, which last was the virtual support of the wall. The Gothic architects improved on this by adding a pillar, or rather a half pillar, on each side, to receive the pier arches, and carrying up those behind and in front to support the springing of the vault or roof, instead of the useless entablature of the Romans.

By this means the pier became in plan what is represented in figs. 1 and 2 in the diagram (woodcut No. 563). Sometimes it was varied, as represented in fig. 3, where the angle-shafts were only used to lighten the heaviness of the central mass; in other examples both these modes are combined, as in fig. 4, which not only constructively, but artistically, is one of the most beautiful combinations which the square forms are capable of, combining great strength with great lightness of appearance, and variety of light and shade.

These four forms may be said to be typical in the South, where the style was derived so directly from the Roman square pier combined with an attached circular pillar.



563. Diagram of Plans of Pillars.

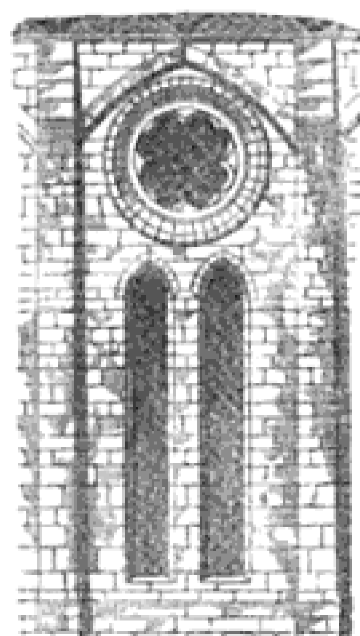
In the North the Normans, and generally speaking, all the Frankish tribes, used the round pillar in preference to the square pier, and consequently the variations were as shown in figs. 5, 6, 7, and 8; which, though forming beautiful combinations, wanted the accentuation produced by the contrast between the square and round forms.

The architects after a time seem to have felt this, and tried to remedy it by introducing ogee forms and sharp edges, with deep undercut shadows, thus applying to the pillars those forms which had been invented for the mouldings of the ribs of the vaults, and for the tracery of the windows. The expedient was perfectly successful at first, and as long as it was practised in moderation, gave rise to some of the most beautiful forms of pillars to be found in any style. It proved, however, too tempting an opportunity for the indulgence of every sort of quirk and quibble; and after passing through the shapes shown in figs. 9 and 10, where the meaning of all the parts is still sufficiently manifest, it became as complicated as fig. 11, and sometimes even much more, so as to lose all meaning and all beauty, besides becoming very expensive and difficult to execute, so that in later times the architects reverted either to circular pillars, or to such a form as that shown in fig. 12, introduced in the 16th century. The change may have been partly introduced from motives of economy, and also to some extent from a desire to imitate the flutings of classical pillars: but from whatever motive it arose, it is singularly unmeaning and inartistic; and as the capital was at the same time omitted, the whole pillars took an appearance of cold poverty, entirely at variance with the true spirit of Gothic art. This last change showed, perhaps more clearly than those introduced into any other feature, how entirely the art had died away before the classical styles superseded it.

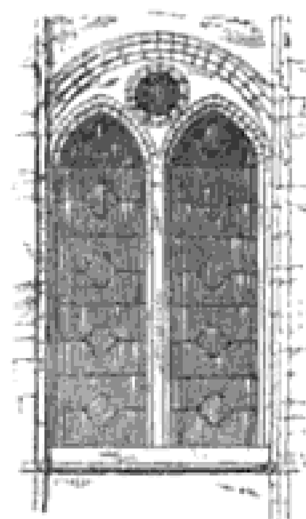
Windows.

Before the use of painted glass, very small apertures sufficed to introduce the required quantity of light into the churches. These retained their circular arched heads long after the pointed form pervaded the vaults and pier arches, because the architects still thought that the most beautiful, and it occupied so small a portion of the wall spaces that its lines neither came in contact nor interfered with the constructive lines of the building itself: as soon as it was required to enlarge them for the purpose of receiving large pictures, the circular form was no longer possible.

The woodcut No. 537, showing the side elevation of Notre Dame at Paris, illustrates well three stages of this process as practised in the 12th and 13th centuries. It exhibits first the large undivided window without mullions, the glass being supported by strong iron bars; next, that with one mullion and a circular rose in the head; and lastly, on the lower story, a completely traceried window. The transition from the old small window to the first of these is easily explained, and the woodcut No. 564, representing one of the windows in St. Martin at Paris, will explain the transition from the first to the second. Instead of one large undivided opening, it was often thought more expedient to introduce two lancets side by side; but as these never filled, or could fill, the space of one bay so as to follow its principal lines, it became usual to introduce a circular window of greater or less size between their heads. This, with the rude construction of the age, presented certain difficulties, which were obviated by carrying the masonry of the vault through the wall so as to form a discharging arch. When once this was done it required only a glance from an experienced builder to see that if the discharging arch were strong enough, the whole of the wall between the buttresses might be removed without endangering the safety of the building. This was accordingly soon done. The pier between the two lancets became attenuated into a mullion, the circle lost its independence, and was grouped with them under the discharging arch, which was carried down each side in boldly splayed jambs, and the whole became in fact a traceried window.



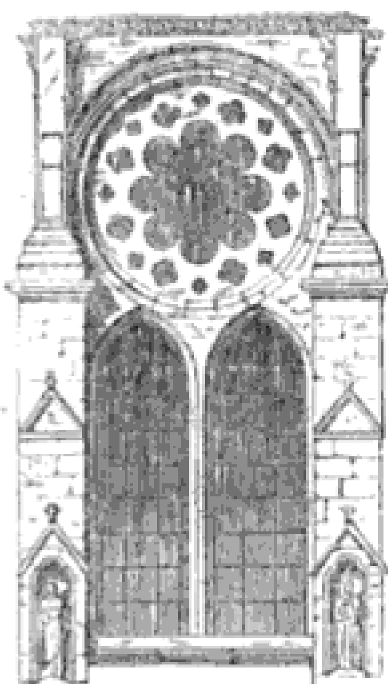
564. Window, St. Martin, Paris. From Paris Archéologique.



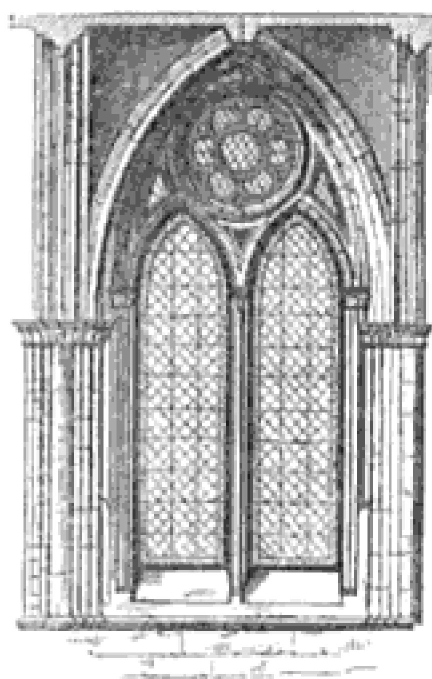
565. Window in Nave of Cathedral at Chartres.

In the cathedral at Chartres we have examples of the two extremes of these transitional windows. In the windows of the aisles of the nave (woodcut No. 565) the circle is small and insignificant, and only serves to join together the two lancets. In the clerestory (woodcut

No. 566), which is somewhat later, the circle is all important and quite overpowers the lower part. Here it is in fact a circular window, supported by a rectilinear substructure. In both these instances the discharging arch still retains its circular form, and the tracery is still imperfect, inasmuch as all the openings are only holes of various forms cut into a flat surface, whereas to make it perfect, it is necessary that the lines of two contiguous openings should blend together, being separated by a straight or curved moulded mullion, and not merely pierced as they are in this instance. This may perhaps be better illustrated by one of the windows of the side aisles at Rheims, where the pointed Gothic window has become complete in all its essential parts. Even here, it will be observed how awkwardly the circle fits into the spherical triangle of the upper part of the window. Indeed, there is an insuperable awkwardness in the small triangles necessarily left in fitting circles into the spaces above the lancets, and beneath the pointed head of the openings. When four or five lights were used instead of two, this defect became more apparent; and even in the example from St. Ouen (woodcut No. 568), one of the most beautiful in France, the architect has not been able to obviate the discordance between the conflicting lines of the circle and spherical triangle. At last, after two centuries of earnest trial, the builders of these days found themselves constrained to abandon entirely these beautiful constructive geometric forms for tracery of a more manageable nature, and in place of the circle, they invented first a flowing tracery, of which the window at Chartres (woodcut No. 569) is an exquisite example; and then having shaken off the trammels of constructive form, launched at once into all the vagaries of the flamboyant style. In this style, stone tracery was made to look bent and twisted, as if it had been willow wands. Its forms, it must be confessed, were always graceful, but constructively weak, and frequently extravagant, showing a complete contrast with the contemporary perpendicular style in England. That failed from the stiffness of its forms; this from the fantastic pliancy with which so rigid a material as stone was used. Greatness or grandeur was as impossible in flamboyant tracery, as grace and beauty were with the perpendicular style; still for domestic edifices, and for the smaller churches erected in the 16th century, it must be confessed the flamboyant style has a charm it is impossible to resist. It is so graceful and so fantastically

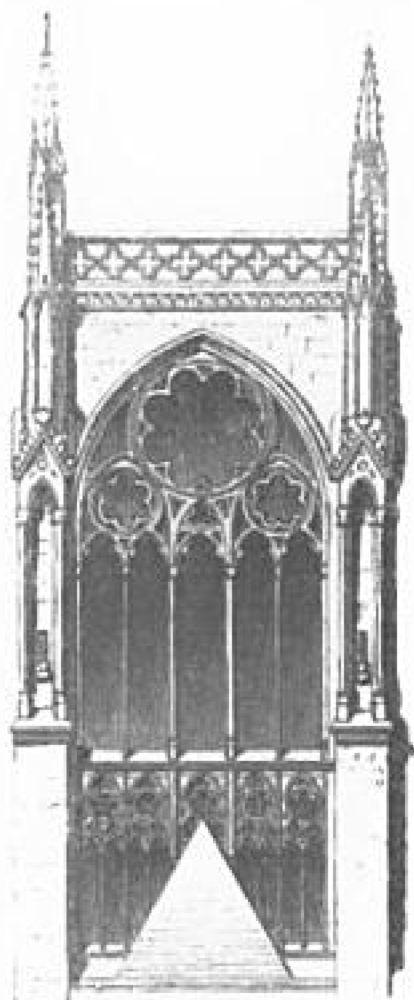


566. Window in Choir of Cathedral at Chartres.

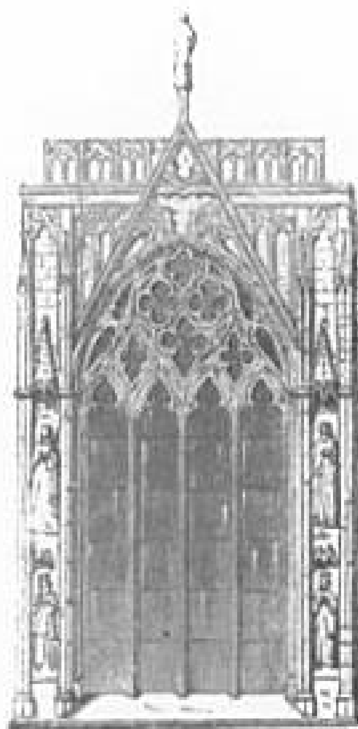


567. Window at Rheims.

brilliant, that it captivates in spite of our soberer reason, and lends an elegance to every edifice where it is found, only paralleled among the graceful fancies of the Saracenic architects of the best age.



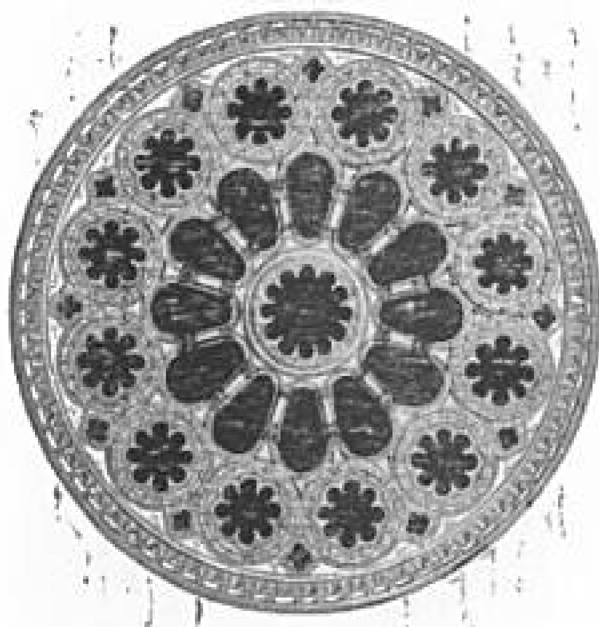
568. Window at St. Ouen.



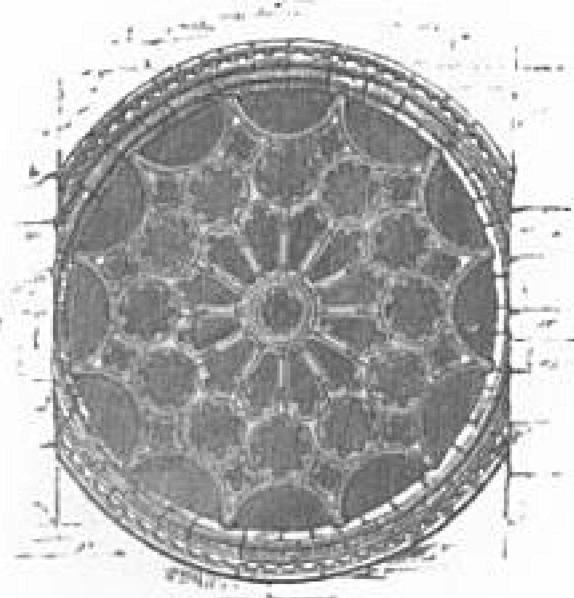
569. Window at Chartres.

CIRCULAR WINDOWS.

By far the most brilliant examples of this class in France are to be found among the great circular windows with which the west ends and transepts of the cathedrals were adorned. There is, I believe, no instance in France of the great straight mullioned windows of which our architects were so fond. Even where the east end terminates squarely, as at Laon, it has a great rose window. There can be little



570. West Window, Chartres.

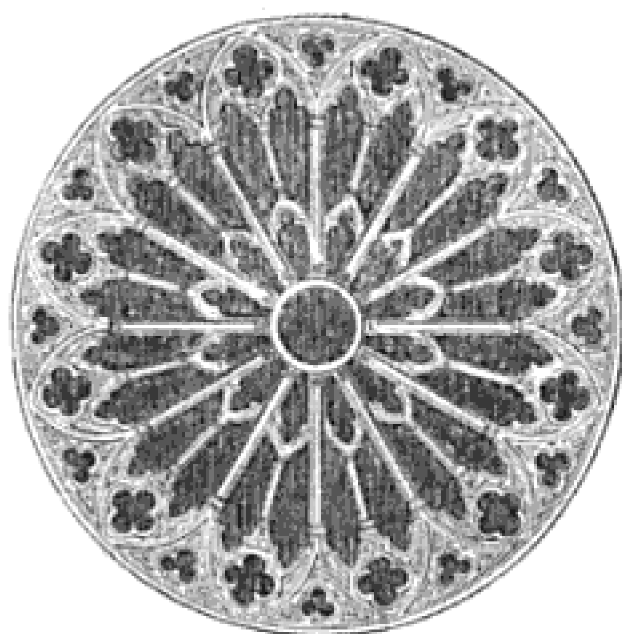


571. Transept Window, Chartres.

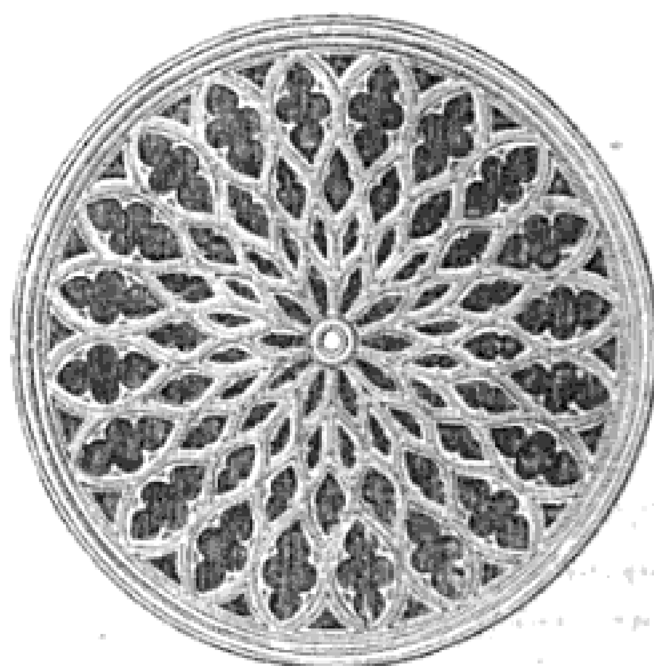
doubt that the circle, so long as it was wholly adhered to, was the noblest form architecturally, both externally and internally; but when the triforium below it was pierced, and the lower angles outside the circle filled with tracery, so as to make it into something like our great windows, the result was a confusion of the two modes, which preserved the advantages of neither.

Of the earlier circular windows, one of the finest is that in the western front at Chartres (woodcut No. 570), of imperfect tracery, like the greater part of that cathedral, but of great size and majesty. Its diameter is 39 ft. across the openings, and 44 ft. 6 in. across to the outer mouldings of the circle. Those of the transepts are smaller, being only 33 ft. across the opening, but show a considerable advance in the art of tracery, which by the time at which they were executed was becoming far more perfect.

If space admitted, it would be easy to select examples to trace the progress of the invention between these early efforts and the almost perfect window that adorns the centre of the west front at Rheims (woodcut No. 572); and again from this to that at Evreux (woodcut No. 573). In the latter instance, the geometric forms have given way



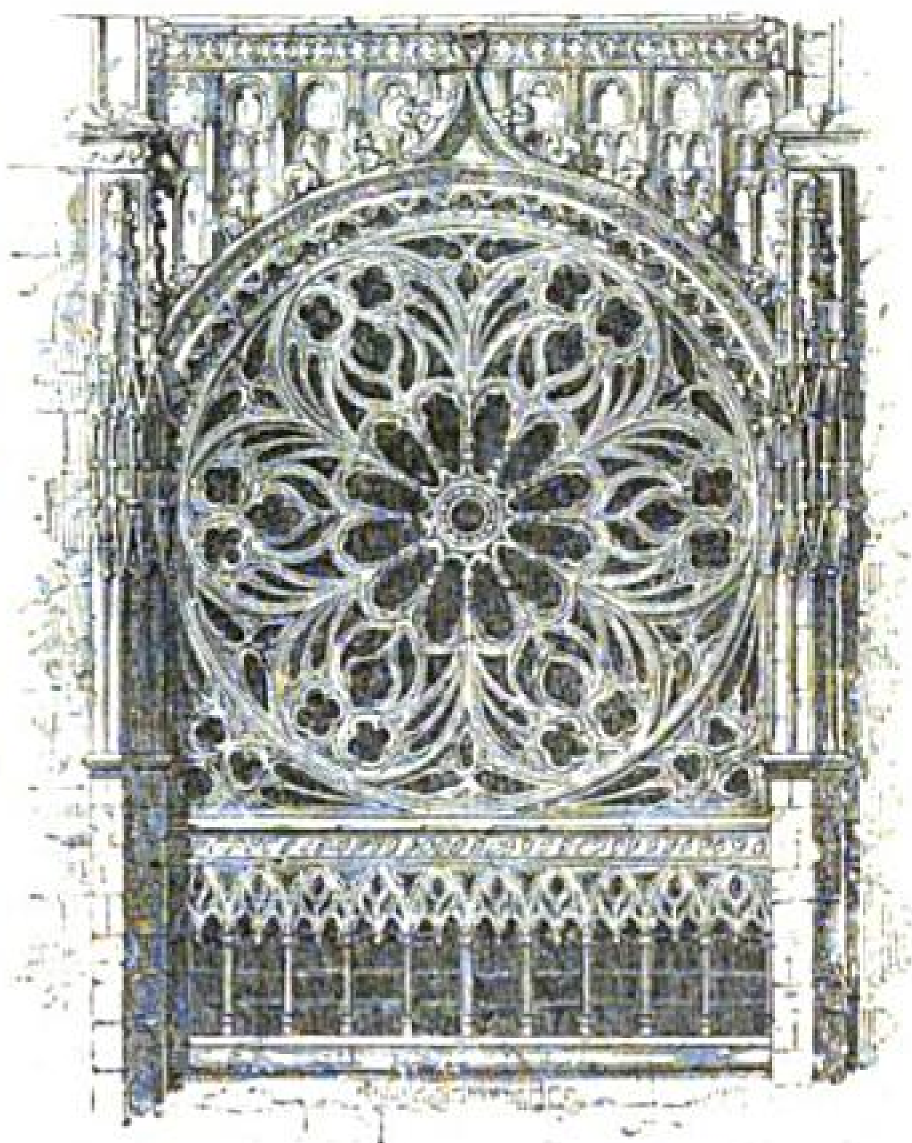
572. West Window, Rheims.



573. West Window, Evreux.

to the lace-work of flowing tracery, of which this is a pleasing example. It is further remarkable in one respect, that all the parts of the tracery or mullions are of the same thickness, whereas it is usual in flowing or flamboyant tracery to introduce a considerable degree of subordination into the parts, dividing them into greater or smaller ribs, thus avoiding confusion and giving it a constructive appearance which it otherwise would not possess. This is very apparent in such a window as that which adorns the west front of St. Ouen, at Rouen, where the parts are distinctly subordinated to one another, and have consequently that strength and character which it is so difficult to impart. It also exemplifies what was before alluded to, viz., the mode in which the lower external angles of the circle were filled up, and also, in a far more pleasing manner than usual, the mode in which the pierced tri-

forium is made to form part of the decoration. Owing to the strong transom bar here employed, there is strength enough to support the superstructure; but as too often is the case, when this is subdued and kept under, there is a confusion between the circular and upright parts, which is not pleasing. It is then neither a circular nor an upright window, but an indeterminate compound of two pleasing members, in which both suffer materially.



574. West Window, St. Ouen. From Pugin.

I believe it is safe to assert, that out of at least a hundred first class examples of these circular windows, which still exist in France, no two are alike. On the contrary, they present the most striking dissimilarity of design. There is no feature on which the French architects bestowed more pains, or in which they were more successful. They are, indeed, the *chefs-d'œuvre* of their decorative abilities, and the most pleasing individual features of their greater churches. At the same time, they completely refute the idea that the pointed form is at all necessary for the production of beauty in decorative apertures.

BAYS.

It may be useful here to recapitulate what has been said of the subdivision of churches into bays, or, as the French call them, *travées*. The two typical arrangements of these are shown in woodcuts Nos. 523 and 525, as existing before the introduction of the pointed forms. In the first a great gallery runs over the whole of the side aisle, introduced partly as a constructive expedient to serve the purpose for which flying buttresses were afterwards employed, partly as enabling the architect to obtain the required elevation without extraordinarily tall pillars or wide pier-spaces, both which were beyond the constructive powers of the earlier builders. These galleries were also useful as adding to the accommodation of the church, as persons were able thence to see the ceremonies performed below, and to hear the

mass and music as well as from the floor of the church. These advantages were counterbalanced by the greater dignity and architectural beauty of the second arrangement (woodcut No. 525), where the whole height was divided into that of the side aisles and of a clerestory, separated from one another by a triforium gallery, which represented in fact the depth of the wooden roof requisite to cover the side aisles. When once this simple and beautiful arrangement was adopted, it continued with very little variation throughout the middle ages.[1] The proportions generally used were to make the aisles half the height of the nave. In other words, the string-course below the triforium divided the height into two equal parts; the space above that was divided into three, of which two were allotted to the clerestory, and one to the triforium. It is true there is perhaps no single instance in which the proportions here given are exactly preserved, but they sufficiently represent the general division of the parts, from which the architects only deviated slightly, sometimes on one side, sometimes on the other, according to their taste or caprice. The only really important change afterwards introduced was that of glazing the triforium gallery also, by adopting a flat roof, or one nearly so, over the side aisles, as at the church of St. Ouen at Rouen (woodcut No. 568), where the roof is so flat that the edge of it is hardly seen by a spectator standing on the floor of the church. The whole walls of the church, with the slight exception of the spandrils of the great pier-arches, have thus become walls of glass, the mass of the vault being supported only by the deep and bold constructive lines of which the framework of the glass surface consists.

In England we have not, as far as I am aware, any instance of a glazed triforium, but it is nevertheless probably one of the most beautiful features in the later styles of the French architects, and where it retains its coloured glass, which is indispensable, produces one of the most fairy-like effects ever attained in any architectural work.

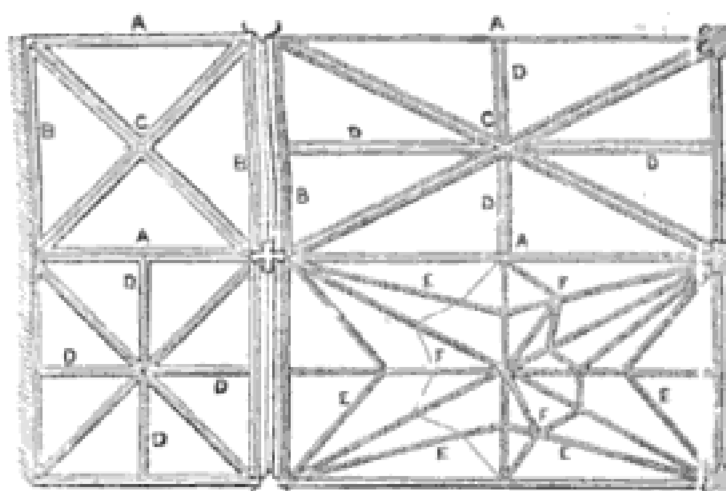
Vaults.

It has already appeared how essential a part of a Gothic church the vault was, and how completely it was the governing power that gave form to the art. We have also seen the various steps by which the architects arrived at the intersecting vault, which became the typical form in the best age. In France especially the stone vault was retained throughout as a really essential feature, for in that country the art of constructing ornamental wooden roofs never prevailed.

In the best age the arrangement of the French vaults was extremely simple. The aisles were generally built in square compartments, the vaults of which were first circumscribed each by 4 equal

[1] The earlier form is found retained at Noyon, at Paris, as shown in woodcut No. 536, and in most of the churches of the 12th century; but in the first years of the 13th it gave place to the second, and was never afterwards revived.

arches (woodcut No. 575), of which A A were transverse ribs, or *arcs doubleaux* as the French called them, and were used, as we have seen, in the old tunnel-vaults. These arches, as springing from the main points of support, were the principal strengtheners of the vault. B was called the *formeret*, and was a rib built into the wall, of the same form as the transverse ribs, and so called because, being the first constructed, it gave the form to the vault. Lastly there were two more ribs springing from angle to angle, and intersecting one another at C. These were called *ogives*, from the Latin word *augere*, to strengthen,[1] which was the object of their employment—and every builder knows how essential to strength this is. In modern vaults—in cellars or dock-vaults for instance, if built of brick—it is usual to insert a course of stone on the edge of the intersection, for bricks used there would be liable to be crushed or fall out. But this is now done flush with the brickwork. The mediæval architects allowed this course to project, not only because such a form was stronger in itself, but because it gave the appearance as well as the reality of strength.



575. Diagram of Vaulting.

The roof of the nave was composed of precisely the same parts, only that, being twice as wide as each compartment was broad, the length of the transverse ribs and of the intersecting ogives was greater in proportion to the formerets than in the aisles. Another addition, and certainly an improvement, was the introduction of ridge-ribs (D D), marking the point of the vault. These could not of course be used with circular arches, where there was no central line for them to mark; and it probably was from this cause that the French seldom adopted them, having been accustomed to vaults not requiring them. Another reason was that all their earlier vaults were more or less domical, or in other words the point C was higher than the points A or B, though this is more apparent in hexapartite vaults, or where one compartment of the nave-vaults takes in two of the aisles, than in quadripartite, like those now under consideration. Still all French vaults have this peculiarity more or less, and consequently the longitudinal ridge-rib, where used, has an up and down broken appearance, which is extremely disagreeable, and in a great measure must have prevented its adoption. There is, however, at least one exception to this rule in France in the abbey church of Souvigny, represented in the woodcut

[1] The French antiquaries employ this word as if it signified a pointed arch, whence they designate the style itself as *ogival*. There is no doubt, however, that the word has nothing to do with the form of the arch or the ogee, but is the name of a rib common to the round-arched as well as to the pointed style.

No. 576, where this rib is used with so pleasing an effect that one is surprised it was not more frequently adopted.



576. Abbey Church, Souvigny. From l'Ancien Bourbonnais.

These are the only features usually employed by French architects: still we sometimes find tiercerons, or secondary ogives, used to strengthen as well as to ornament the plain faces of the vaults, one or two on each face, as at E E (in woodcut No. 575); and lastly small ribs or *liernes*, F F, from *lier*, to bind, were sometimes used to connect all these, forming star patterns at the centre, and other complicated but beautiful ornaments of the vault. These last, however, are rare and exceptional in French vaulting, though treated by the English architects with such success that we wonder that they were not more generally adopted in France. The most probable explanation appears to be that the French architects depended more on colour than on relief for the effect of their vaults, while in England colour was sparingly used, its place being supplied by constructive carving. Whatever may have been the comparative merits of the two methods when first used, the English vaults have a great advantage now, inasmuch as the carving remains, while the paintings of the others have perished, and we have no means of judging of their original effect.

One of the most beautiful features of French vaulting, almost entirely unknown in this country, is the great polygonal vault of the semi-dome of the chevet. As an architectural object few will be disinclined to admit that it is, with its walls of painted glass and its light constructive roof, a far more beautiful thing than the plain semi-dome of the basilican apse, even with its mosaics. Still, as the French used it, they never quite surmounted the difficulties of its construction; and in their excessive desire to do away with all solid wall, and to get the greatest possible surface for painted glass, they distorted these vaults often in a very unpleasing manner.

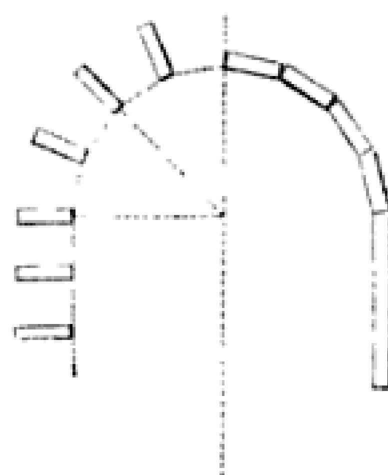
The chevet of Pontigny (woodcut No. 558) presents a good example

of the early form of the vault, and, owing to the small size of the windows and general sobriety of the composition, avoids the defects alluded to. Of the later examples there are few, except that of Souvigny, represented in woodcut No. 576, where the difficulty has been entirely conquered by constructing the spandrils with pierced tracery, so that the vault virtually springs from nearly the same height as the arch of the windows, and a very slight improvement would have made this not only constructively, but artistically perfect. This is a solitary specimen, and one which, though among the most beautiful suggestions of Gothic art, has found no admirers, or at least no imitators.

Notwithstanding this difficulty of construction, these pierced semidomes are not only the best specimens of French vaulting, but among the most beautiful inventions of the middle ages, and form a finer termination to the cathedral vista than either the great windows of the English, or the wonderful rose-windows of the French cathedrals.

BUTTRESSES.

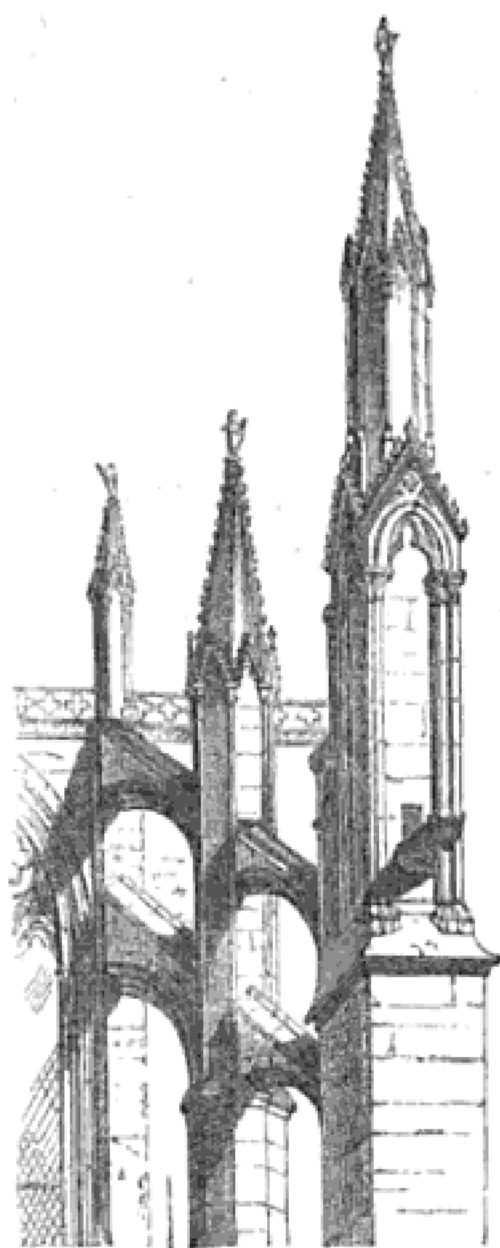
The employment of buttresses was a constructive expedient that followed almost indispensably on the use of vaults for the roofing of churches. It was necessary either to employ enormously thick walls to resist the thrust, or to support them by some more scientific arrangement of the materials. The theory of the buttress will be easily understood from the diagram (woodcut No. 577), representing 7 blocks or masses of masonry, disposed first so as to form a continuous wall, but which evidently affords very little resistance to a thrust or push, tending to overturn it from within. The left-hand arrangement is, from the additional breadth of base in the direction of the thrust, much less liable to fall outwards, provided the distance of the blocks from one another is not too great, and the mass of the vault does not press heavily on the intermediate space. This last difficulty was so much felt by the earlier French architects that, as we have seen, in the south of France especially, they used the roof of the side aisle as a continuous buttress to resist the thrust of their tunnel-vaults. It was surmounted also by the introduction of intersecting vaults, inasmuch as by this expedient all the thrusts were collected together at a point over each pier, and a resisting mass applied on that one point was sufficient to give all the stability required. This and the desire of raising the lights as high as possible into the roof were the principal causes that brought this form of vaulting into general use; but it has not yet been shown that the continuous vault is not nevertheless the more beautiful of the two forms, artistically at least, if not constructively.


577. Diagram of Buttresses.

There was still one difficulty to be mastered, which was that the

principal vault to be abutted was that over the nave or central part of the church, and buttresses of the requisite depth would have filled up the side aisles entirely. The difficulty occurred as early as in the building of the basilica of Maxentius (woodcut No. 259), and was there got over practically in something like the same manner as in the middle ages, except that the arch was there carried inside, whereas the Gothic architects threw the abutting arch across on the outside and above the roof.

Several of the previous woodcuts[1] show the system of flying buttresses in various stages of advancement. The view of one of those of the choir of St. Ouen (No. 578) exhibits the system in its greatest degree of development. Here there are two vertical and two flying buttresses, forming a system of great lightness, but at the same time of immense constructive strength, and when used sparingly and with elegance, as in this instance, constituting an object of great beauty. The abuse of this expedient, as in the cathedral at Cologne and elsewhere, went very far to mar the proper effect.



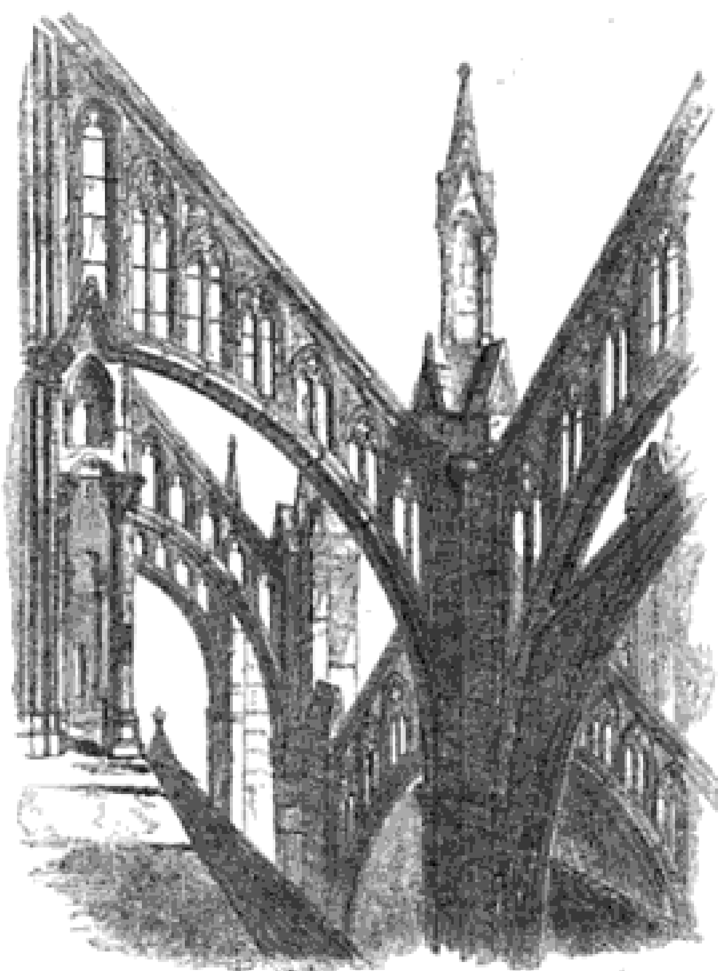
578. Flying Buttress of St. Ouen. From Batissier, Histoire de l'Art.

The cathedral at Chartres presents a singular but very beautiful instance of an earlier form of flying buttress; there the immense span of the central vault put the architects on their mettle to provide a sufficient abutment, and they did it by building what was literally an open wall across the aisle (see woodcut No. 543), strongly arched, and the arches connected by short strong pillars radiating with the voussoirs of the arch. Nothing could well be stronger and more scientific than this, but the absence of perpendicularity in the pillars was unpleasing to the eye then as now, and the contrivance was never repeated.

A far more pleasing form was that adopted afterwards at Amiens (woodcut No. 579) and elsewhere, where a series of small traceried arches stand on the lower flying buttress, and support the upper, which is straight-lined. Even here, however, the difficulty is not quite got over; the unequal height of these connecting arches, and the awkward angle which the lower supports make with the curvilinear form on which they rest, deprive them of that constructive propriety which alone secures a perfectly satisfactory result in architecture. The problem indeed is one which the French never thoroughly solved, though they bestowed immense pains upon it. Brilliant as the effect sometimes is of the

[1] See woodcuts Nos. 536, 543, 556, &c.

immense mass of pinnacles and flying buttresses, they are seldom so put together as to leave an entirely satisfactory result on the mind of the spectator. Taken all in all perhaps the most pleasing example is that of Rheims (woodcut No. 544), those on each side of the nave especially, where two bold simple arches transmit the pressure from an exquisitely bold pinnacled buttress to the sides of the clerestory, and in such a manner as to leave no doubt whatever either as to their purpose or their sufficiency to accomplish their object.



579. Flying Buttress at Amiens. From Chapuy.

Notwithstanding the beauty which the French attained in their flying buttresses, it is still a question whether they did not carry this feature too far. It must be confessed that there is a tendency in the abuse of the system to confuse the outlines and to injure the true architectural effect of the exterior. Internally it no doubt enabled them to lighten their piers and increase the size of their windows to an unlimited extent, and to judge fairly we must balance between the gain to the interior, and the external disadvantages. This we shall be better able to do when considering the next constructive expedient, which was that of the introduction of pinnacles.

PINNACLES.

The use of pinnacles, considered independently of their ornamental purposes, is evident enough. It is obvious that a wall or pillar which has to resist the thrust of a vault or any other power exerted laterally, depends for its stability solely on its thickness, solidity, and generally on its lateral strength. A material consideration, as affecting this solidity, is that of weight. The most frequent use of pinnacles by the French was to surmount the piers from which the flying buttresses sprang. To these piers weight and solidity were thus imparted, rendering them a sufficiently steady abutment to the flying arches, which in their turn abutted the central vaults.

It must be understood that these expedients of buttresses and pinnacles were only employed to support the central roof of the nave. Those of the aisles were so narrow as not to require any elaborate system of abutments for their support, the ordinary thickness of the walls sufficing for that purpose.

As a general rule the English architects never hesitated to weight

their walls so as to apply the resistance directly on the point required, and not only adorned the roofs of their churches with pinnacles, but raised towers and lanterns on the intersections on all occasions. The French, on the other hand, always preferred placing these objects, not *on* their churches, but rather grouped around them, and springing from the ground. This, it is true, enabled them to indulge in height and lightness internally to an extent unknown in England. This extravagance proved prejudicial to the true effect even of the interior, while externally the system was very destructive of grace and harmony. As high as the parapet of the side aisles a French cathedral is generally solid and simple, but above this base the forest of pinnacles and buttresses that spring from it entirely obscure the clerestory, and confuse its lines. Above this the great mass and simple form of the high steep roof, unbroken by pinnacles or other ornaments, contrasts ill with the lightness and confused lines immediately below it. This inconsistency tends to mar the beauty of French cathedrals, and even of their churches, though *there* the effect is less glaring owing to the smallness of the parts.

Spires.

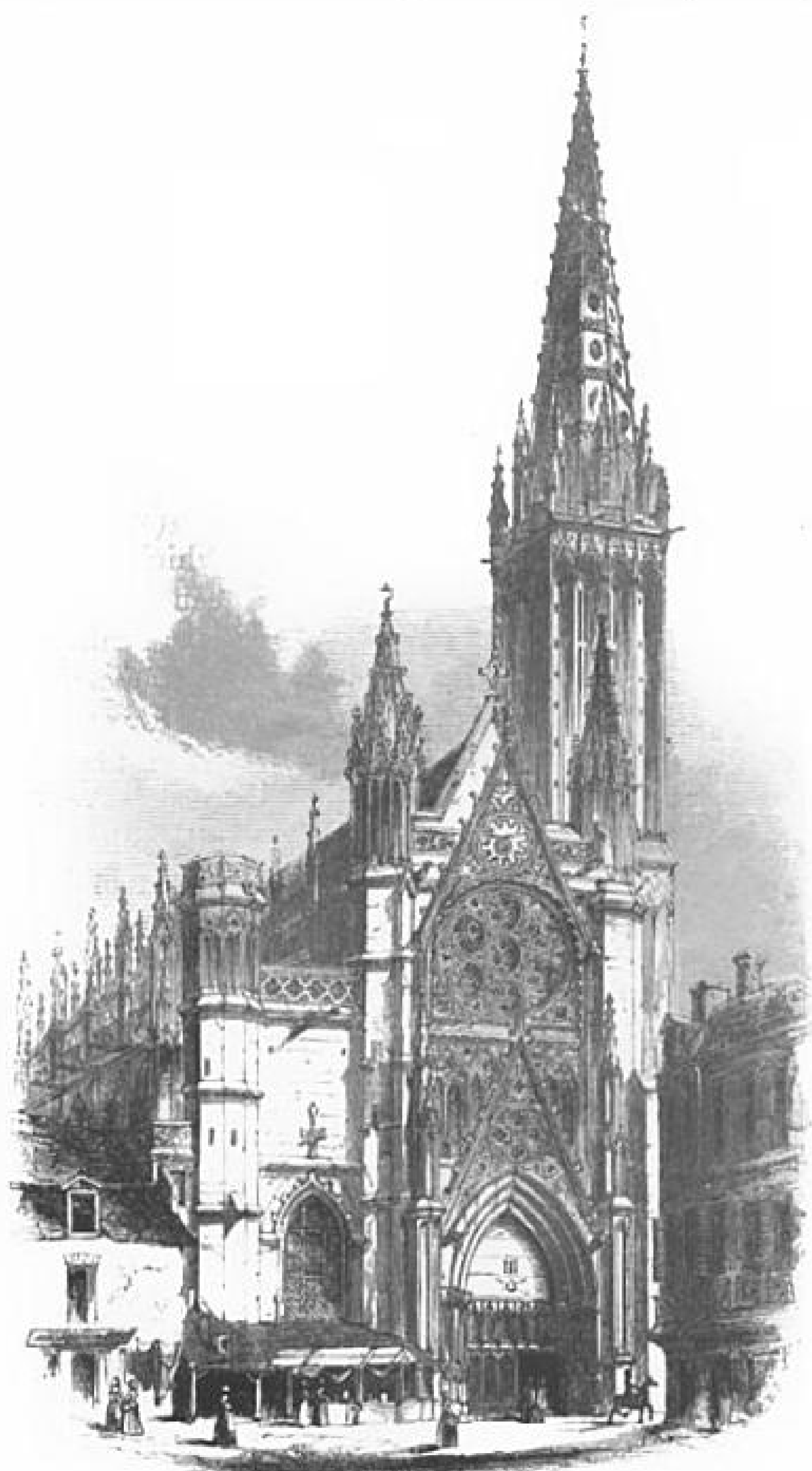
An easy transition leads us from pinnacles to spires, the latter being but the perfect development of the former, and each requiring the assistance of the other in producing a thoroughly harmonious effect. Still their uses were widely different, for the spire never was a constructive expedient, or useful in any way. Indeed, of all architectural features, it is the one perhaps to which it is least easy to apply any utilitarian rule.

We have seen that towers were originally introduced in Christian edifices partly as bell-towers, partly as symbols of power, sometimes perhaps as fortifications, besides the general purpose of ornamenting the edifices to which they were attached, and giving them that dignity which elevation always conveys.

From the tower the spire arose first as a wooden roof, and as height was one of the great objects to be attained by building the tower, it was natural to eke this out by giving the roof an exaggerated elevation beyond what was required as a mere protection from the weather. When once the idea was conceived of rendering it an ornamental feature, the architects were not long in carrying it out. The first and most obvious step was that of cutting off the angles, making it an octagon, and carrying up the angles of the tower by pinnacles, to soften the transition between the perpendicular and sloping part, and reduce it again to harmony.

One of the earliest examples in which this transition is successfully accomplished is in the old spire at Chartres (woodcut No. 542), where the change from the square to the octagon, and from the tower to the pyramid, are managed with great felicity. The western spires of St. Stephen's abbey at Caen (woodcut No. 522), though added in the age of pointed Gothic to towers of an earlier age, are also pleasing speci-

mens. But perhaps one of the very best in France, for its size and age, is that of St. Pierre at Caen (woodcut No. 580), uniting in itself

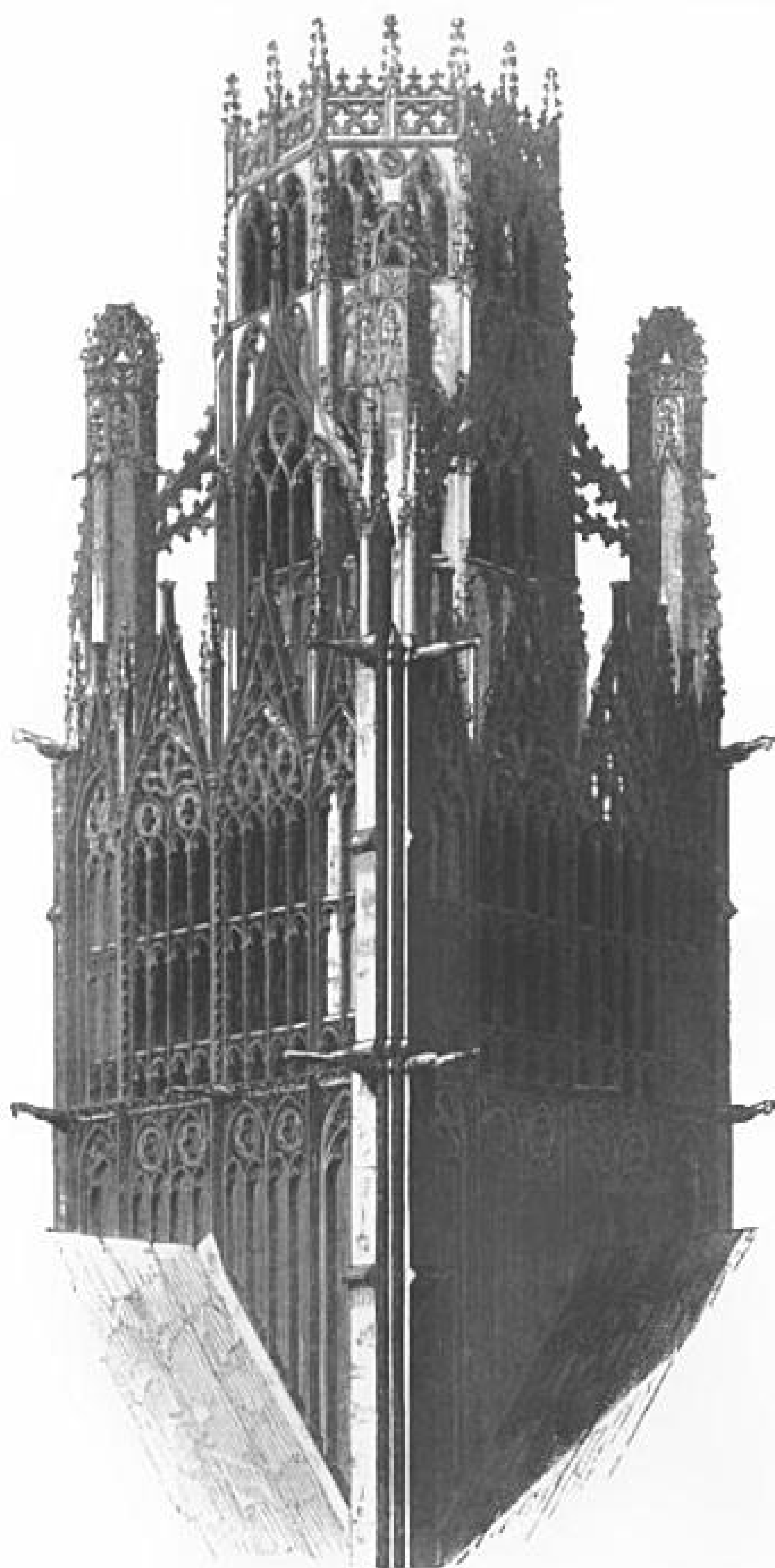


580. St. Pierre, Caen. From Chapuy.

all the properties of a good design without either poverty or extravagance. The little lantern of St. Marie de l'Epine (woodcut No. 559) is for its size as graceful an object as can well be designed; and the new spire at Chartres (woodcut No. 542), as before remarked, is, excepting the defects inherent in its age, one of the most beautiful in Europe.

This feature is nevertheless, it must be confessed, rarer in France than might be expected. This is perhaps owing to many spires having been of wood, and to their having been allowed to decay and been

removed; and in other instances it is certain that the design of erecting them has been abandoned in consequence of the tower, when finished, having been found insufficient to bear their weight.



581. Lantern, St. Ouen, Rouen. From a Print by Chapuy.

The ruined church of St. John at Soissons has two, which are still of great beauty. At Bayeux are two others, not very beautiful in themselves, but which group pleasingly with a central lantern of the Renaissance age. And at Coutances there are two others of the best age (woodcut No. 549), which combined with a central octagonal lantern make one of the most beautiful groups of towers in France. Here the pitch of the roof is very low, and altogether the external design of the building is much more in accordance with the canons of art prevalent on this side of the Channel than with those which found favour in France.

Of the earlier French lanterns, this at Coutances is perhaps the best specimen to be found: of the later class there is none finer than that of St. Ouen; and had the western towers been completed in the same character, in accordance with the original design, the towers of this church would probably be unrivalled. Even alone the lantern is a very noble architectural feature, and appropriate to its position, though some of the details mark the lateness of the age in which it was erected.

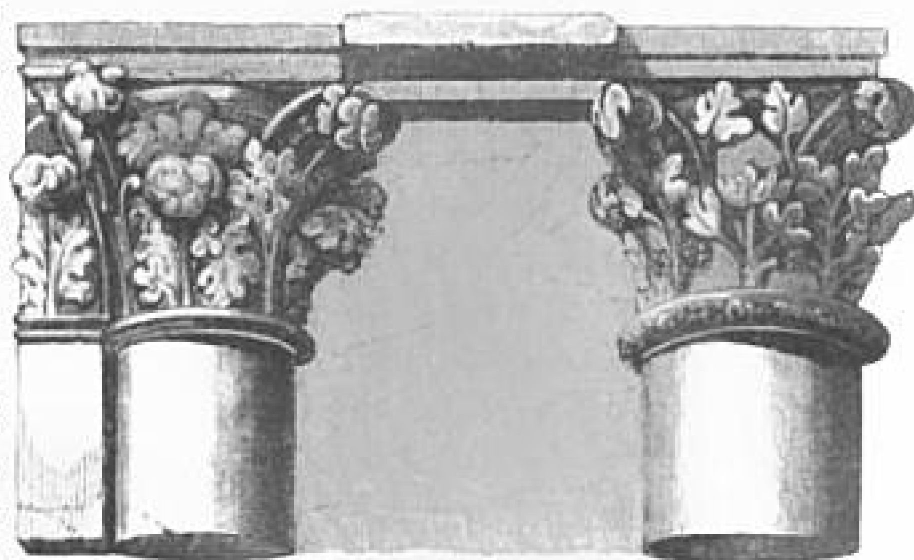
Notwithstanding the beauty of these examples, it must be confessed that the French architects were not so happy in their designs of spires and lanterns as they were in many other features.

It would be in vain to attempt to enumerate all the smaller decorative features that crowd every part of the Gothic churches of France, many of which indeed belong more to the department of the sculptor than to that of the architect, though the two are so intimately interwoven that it is impossible to draw the line between them. The corbel for instance represented in woodcut No. 582 is as much a niche for the statue as a bracket to support the ends of the ribs of the vaults, and is one of the thousand instances which are met with everywhere in Gothic art of that happy mixture of the arts of the mason, the carver, and the sculptor, which when successfully combined produce a true artistic effect. These combinations are so numerous and so varied that it would be hopeless to attempt to classify them, or even to attempt to illustrate the varieties found in any single cathedral.



582. Corbel. From Didron, Annales Archéologiques.

The same may be said of the capitals of the pillars, which in all the best buildings vary with every shaft, and seem to have been executed after the architect had finished his labours, by artists of a very high class. In the best age they seem, in France at least, as in the examples from Rheims, shown in woodcut No. 583, to have retained a reminiscence of the Roman Corinthian order, but to have used it with a freedom entirely their own.



583. Capitals from Rheims.

Construction.

It has been shown that the exigencies of a Gothic cathedral were a stone roof, a glass wall, and as great an amount of space on the floor, as little encumbered with pillars and points of support, as could be obtained. The two first of these points have been sufficiently insisted upon in the preceding pages; the last demands a few more remarks, as the success of the masons in the middle ages in this respect was one of their chief merits. This was but a mechanical merit after all, and one in which they hardly surpassed their masters the Romans. The basilica of Maxentius, for instance, covers a space of

68,000 square feet, or about the average size of a French cathedral, and the points of support, or in other words the piers and walls, occupy only 6900 ft., or between a 9th and a 10th part of the whole area. If we turn to the great cathedral of St. Peter's at Rome, we find the points of support occupying more than one-fourth of the whole area, though built on the model, and almost a copy, of the Roman basilica. At St. Mary's at Florence they occupy one-fifth; and in St. Paul's, London, and the Pantheon at Paris, the walls and pillars occupy, in the first rather more, in the other rather less, than one-sixth. If from these we turn to some of the mediæval examples, we find for instance at

	The whole area.	Solid.	Ratio.		
Bourges	61,591	11,908	0·181,	or between	1-5th and 1-6th.
Chartres	68,261	8888	0·130	,,	1-8th.
Paris	64,108	7852	0·122	,,	1-8th and 1-9th.
St. Ouen	47,107	4637	0·090	,,	1-10th and 1-11th.

The figures, however, at Bourges include a heavy and extended porch not belonging to the original design, which if omitted would reduce the fractional proportion considerably; and if the unbuilt towers of St. Ouen were excluded, the proportion of the points of support to the area would be less than one-twelfth.

Our best English examples show a proportion of rather less than one-tenth, and though they have not the great height and wide-spreading vaults of the French cathedrals, their spires and pinnacles externally perhaps more than counterbalance this. Taken altogether it may generally be stated that one-tenth is about the proportion in the best churches of the best age. When it is carried beyond this, the lightness of the walls and pillars has been carried to excess, and even in St. Ouen, if there is an error, it is on this side. The church wants solidity, and apparent as well as real strength; for, without affecting the extreme massiveness of Egyptian art, with its wonderful expression of power and durability, there is an opposite extreme far more prejudicial to true architectural effect, in parading, as it were, mechanical contrivances of construction, so as to gain the utmost utilitarian effect with the least possible expenditure of means. This the Egyptians utterly despised and rejected, and heaped mass on mass, even at the expense of any convenience or use the building might be designed to possess. The French architects, on the other hand, made it their study to dispense with every ton of stone they possibly could lay aside. This system they undoubtedly carried too far, for, without looking at such extreme examples as St. Ouen, everywhere in France we find a degree of airy lightness and tenuity of parts destructive of many of the most important conditions of architectural excellence.

Furniture of Churches.

No less thought and expense were probably bestowed upon what we may call the furnishing of Gothic churches than upon the fabrics themselves. Though the objects included in this denomination were altogether of a lower class of art, they were still essential parts of the

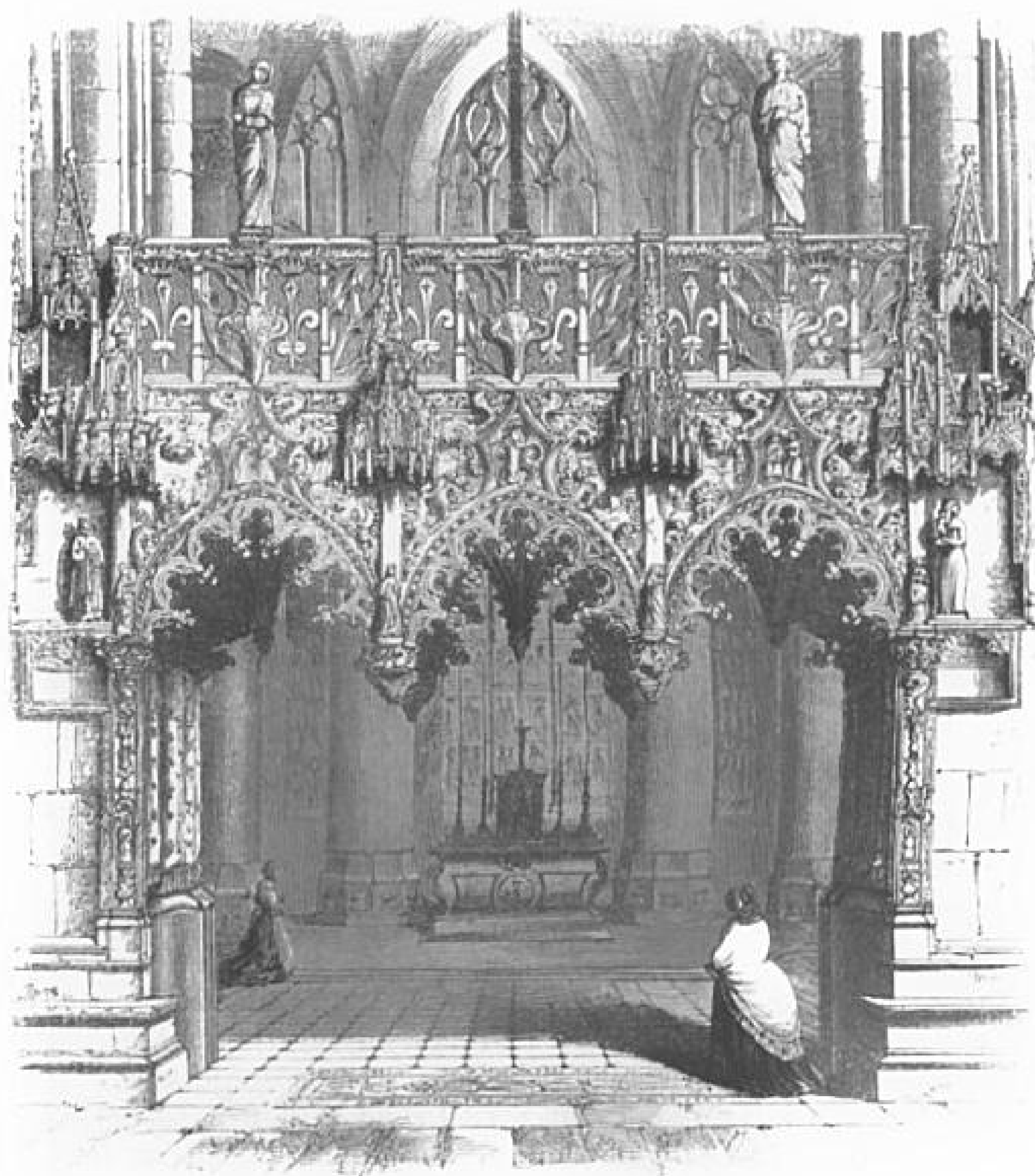
whole design, and we cannot fairly judge of the buildings themselves without at least endeavouring to supply their minor arrangements.

This is not easy in France, nor indeed in any part of Europe, as no one church or chapel displays at the present day all the wealth and ornament once belonging to it.

There is scarcely a single church in France with its original altar, the most sacred and therefore generally the most richly adorned part of the whole. These have either been plundered by the Huguenots, rebuilt in the execrable taste of the age of Louis XIV., or destroyed during the Revolution.

The cathedrals of Amiens and Rouen are among the few which retain their original stalls; and the inclosure of the choir at Chartres is one of the most elaborate pieces of ornamental sculpture to be found. That at Alby has been before alluded to, and fragments of this feature still exist in many cathedrals.

The Rood-screens, or *Jubés*, which almost all French churches once possessed, are rarer than even the other parts of these inclosures. A



584. Rood-Screen from the Madelaine at Troyes. From Arnaud, Voyage dans l'Aube.

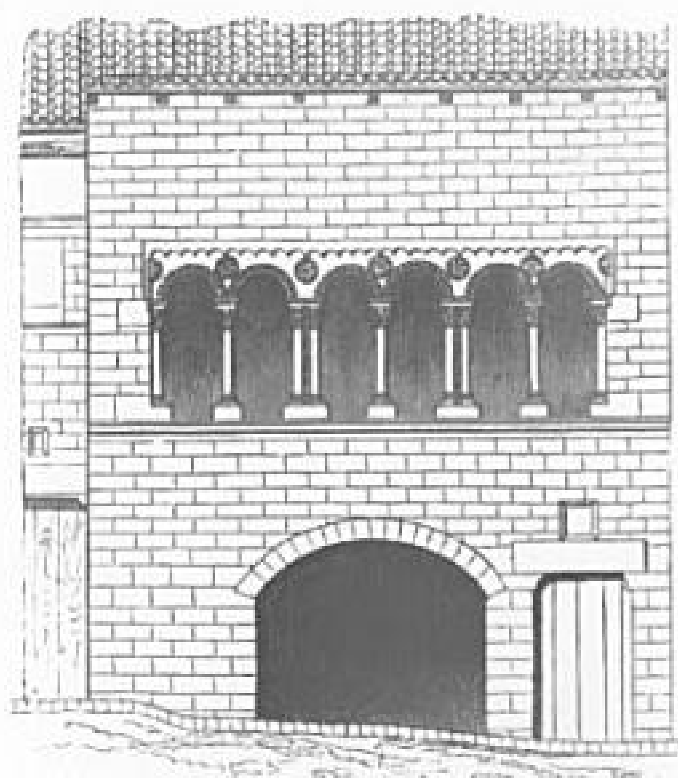
good example of them is found in the church of the Madelaine at Troyes (woodcut No. 584), which gives a favourable idea of the richness of decoration that was sometimes lavished on these parts. Though late in age, and aiming at the false mode of construction which was prevalent at the time of its execution, it displays so much elegance as to disarm criticism. It makes us too regret the loss of the rood-screens of St. Ouen's (of which we can judge from drawings), and of the greater cathedrals, of which we can form some idea by following out the design of the lateral screens, of which they formed a part.

If to these we add the altars of the minor chapels, with the screens that divided them from the nave, the tombs of wealthy prelates and nobles, the organ galleries, with their spiral stairs and richly carved instrument cases, and all the numberless treasures of art accumulated by wealth and piety, we may form some idea of what a Mediæval cathedral really was, but which scarcely now exists in any part of Europe.

Domestic Architecture.

It is probable that specimens remain sufficient to elucidate in an archæological point of view the progress of domestic architecture in France, and thereby to illustrate the early manners and customs of the people; but these remains are much less magnificent and less perfectly preserved than the churches and cathedrals, and have consequently received comparatively little attention.

Had any of the royal palaces been preserved to our day, or even any of the greater municipal buildings, the case might have been different. The former have however perished, without an exception; and as regards the latter, France seems always to have presented a remarkable contrast with the neighbouring country of Flanders.



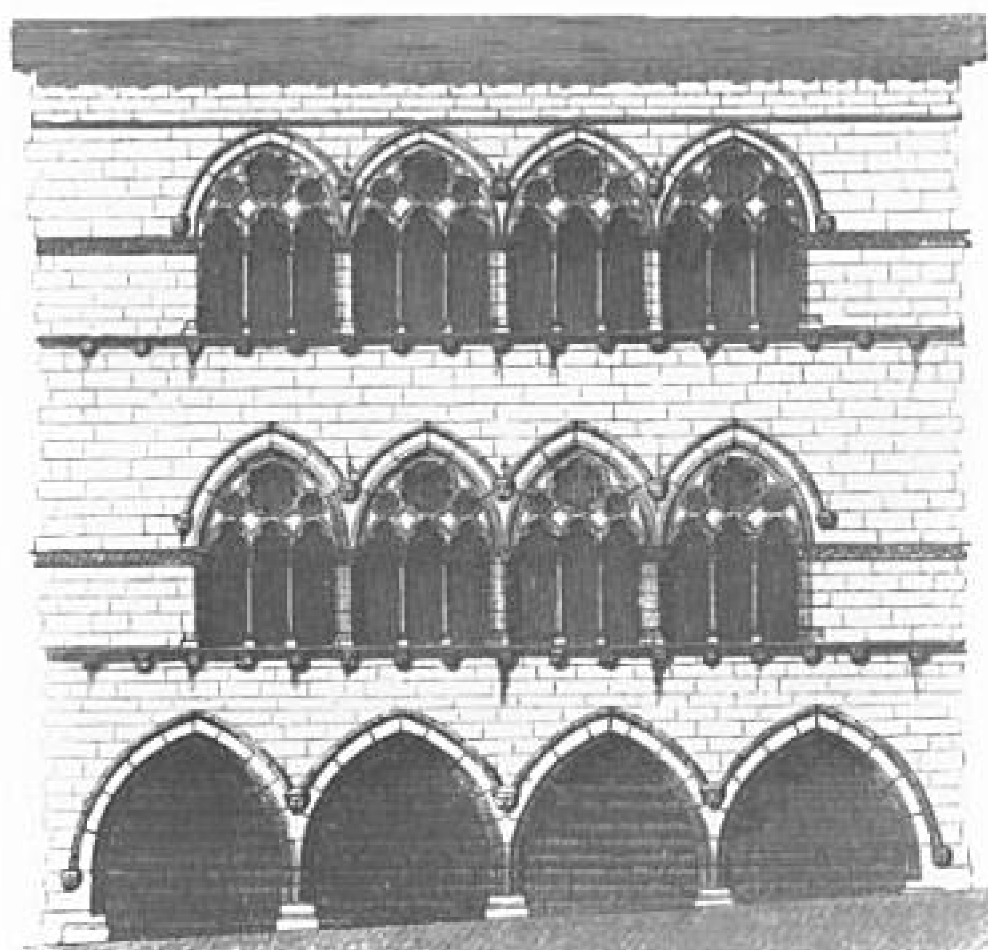
585. House at Cluny. From Gailhabaud.

No town in France proper seems to have possessed either a municipality of importance in the middle ages, nor consequently a town-hall of any note. Those found within its present boundaries belonged to Flanders or Germany at the time of their erection.

Three instances are here given, which will serve to illustrate the forms of the art at the three great epochs of the French Gothic style.

The first (woodcut No. 585) is from a house at Cluny, and exhibits the round-arched arcade with its alternate single and coupled columns, which was usual at that period, and of which examples are found all over the south of France, and as far north at least as Auxerre.

The second (woodcut No. 586) is from a house at Yrieix, and shows the pointed Gothic style in its period of greatest development; and



586. House at Yrieix. From Gailhabaud.

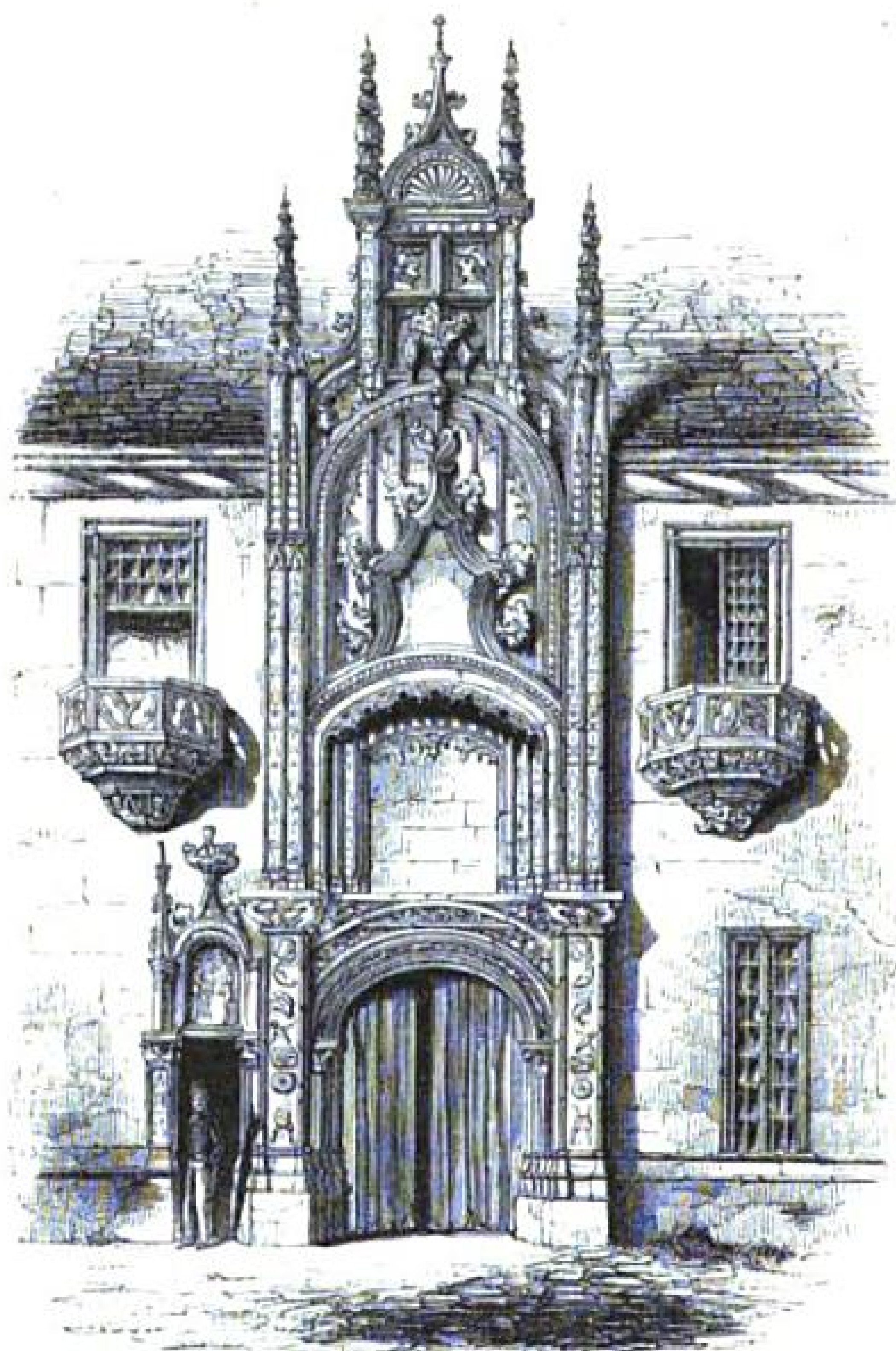
although the openings are of larger extent than would be convenient in this climate, still they are not more than would be suitable, and give great lightness and elegance to a façade in the south of France. The third example is from the portal of the Ducal Palace at Nancy (woodcut No. 587). It is an instance of the form the style took when on the verge of the Renaissance; and though not without elegance, is becoming strange and unmeaning, and except the balconies, the parts generally seem designed as mere ornaments without any constructive or utilitarian motive.

One of the most extensive as well as one of the best specimens of French domestic architecture is the house of Jacques Cœur, at Bourges, now used as the town-hall. It was built by the wealthy but ill-used banker of Charles VII., and every part of it shows evidence of careful design and elaborate execution; it was erected too at an age before the style had become entirely debased, and as a private residence in a town, and consequently without any attempt at fortification, it is the best that France now possesses.

The château of Meillan (Cher) is nearly a repetition of the same design, but at least a hundred years more modern.

Rouen possesses several examples of domestic architecture of a late date, so does Paris—among others, the celebrated Hôtel de Clugny; and few of the great towns are without fragments of some sort, but hardly any of sufficient importance to deserve separate notice or illustration.

France is not so rich as either Germany or England in specimens



587. Portal of the Ducal Palace at Nancy. From Dusomerard.

of castellated architecture. This does not apparently arise from no castles having been built during the middle ages, but rather from their having been pulled down to make way for more convenient dwellings after the accession of Francis I., and even before his time, when they had ceased to be of any use. Still the châteaux of Pierrefonds and Coucy are in their own class as fine as anything to be found elsewhere. The circular keep of the latter castle is perhaps unique, both from its form and dimensions; but being entirely gutted inside, its architectural features are gone, and it is difficult to understand how it was originally arranged, and by what means it was lighted and rendered habitable.

Tancarville still retains some features of its original fortifications, as also do the castles of Falaise and Gaillard.

The keeps of Vincennes and Loches are still remarkable for their height, though hardly retaining any features which can be called strictly architectural. In the South, the fortified towns of Carcassonne

and Aigues Mortes, and in the North Fougères, retain as much of their walls and defences as almost any places in Europe. The former in particular, both from its situation and the extent of its remains, gives a singularly favourable and impressive idea of the grave majesty of an ancient fortalice. But for alterations and desecrations of all sorts, the palace of the popes at Avignon would be one of the most remarkable castles in Europe: even now its extent and the massiveness of its walls and towers are most imposing.

These are either ruins or fragments; but the castle of Mont St. Michel, in Normandy, retains nearly all the features of a Mediæval fortress in sufficient perfection to admit of its being restored, in imagination at least. The outer walls still remain, encircling the village, which nestles under the protection of the castle. The church crowns the whole, and around it are grouped the halls of the knights, the kitchens and offices, and all the appurtenances of the establishment, intermingled with fortifications and defensive precautions that would have made the place nearly impregnable even without its sea-girt locality.

BOOK IV.

BELGIUM.

CHAPTER I.

CONTENTS.

Historical notice — Old churches — Cathedral of Tournay — Antwerp — St. Jacques at Liège.

The Gothic architecture of Belgium is in many points scarcely inferior to that of France. In a historical point of view the series of buildings is in some respects even more complete. In size, the cathedrals of this country are at least equal to those that have just been described. In general interest, no cathedral of France exceeds that of Tournay, none in gorgeousness that of Antwerp; and few surpass even those of Louvain, Mechlin, Mons, or those of Bruges and Ghent. Still it must be confessed that the churches of this country altogether are deficient in artistic design. Owing either to the art never having been in the hands of an organized and educated body like the clergy of France, or to some other local circumstances, they never display that elegance of proportion, and that beauty of well-considered and appropriate detail, which everywhere please and satisfy the mind in contemplating the cathedrals of France.

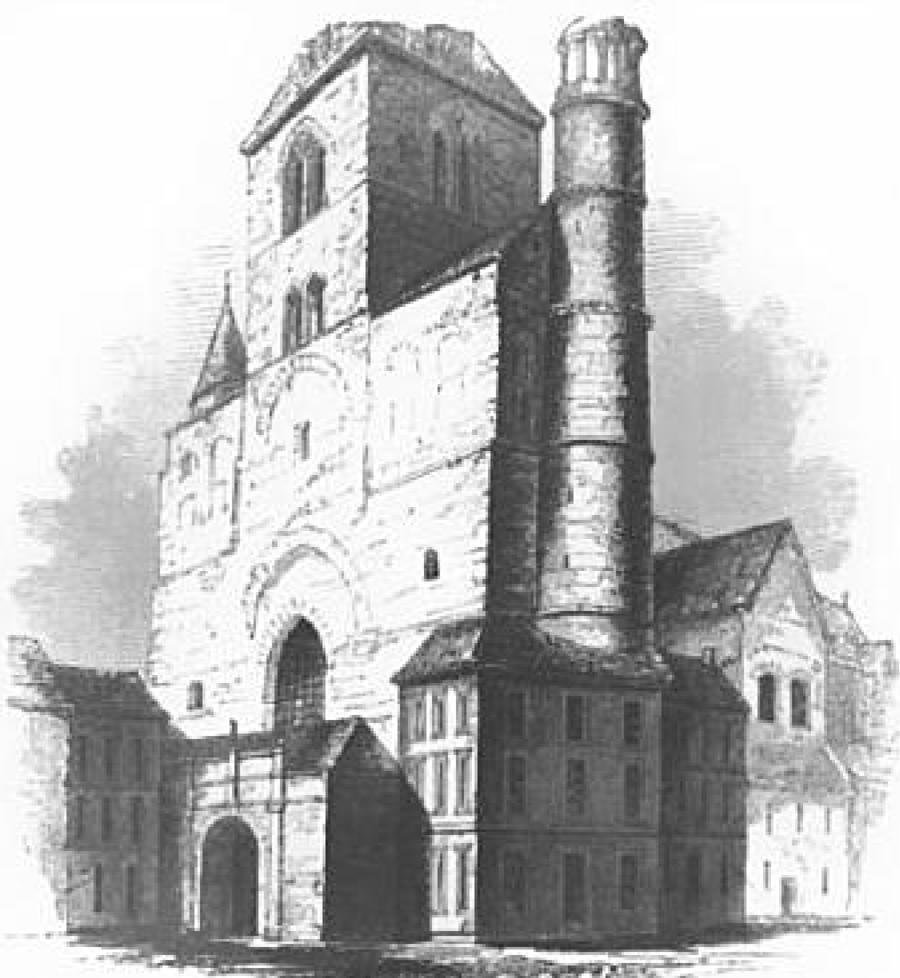
These remarks apply only to ecclesiastical art. In specimens of the civil and domestic architecture of the middle ages, Belgium surpasses all the rest of Europe put together. Her town-halls and markets, and the residences of her burghers, still display a degree of taste and elegance unsurpassed by anything of the age, and remain to this day the best index of the wealth and independence of the communities to which they belonged.

The early history of Belgium, dating from the withdrawal of the Romans, is involved in much obscurity. It appears to have been for the most part divided into various independent communities with no central authority or established capital. These communities at times acknowledged a very limited authority on the part of dukes or counts, and occasionally placed themselves under the protection of some powerful neighbouring monarch. But they never relinquished the right of self-government, nor fell under the power either of feudal chiefs or of a dominant hierarchy so completely as almost all the rest

of Europe. This independence was immensely developed by the great extension of trade at a very early period in the cities of Belgium. Commercial activity, together with the consequent increase of wealth and power of the cities, was necessarily accompanied by the rise of an important class of burghers till then unknown in Europe.

These historical circumstances go far to explain the peculiar character observable in the architectural remains of this country. We find here no trace of any combined national effort. Even the epoch of Charlemagne passed over this province without leaving any impress on the face of the country, nor are there any buildings that can be said to have been called into existence by his influence and power. The great churches of Belgium seem, on the contrary, to have been raised by the individual exertions of the separate cities on a scale commensurate to their several requirements. The same spontaneous impulse gave rise to the town-halls and domestic edifices, which present so peculiar and fascinating an aspect of picturesque irregularity.

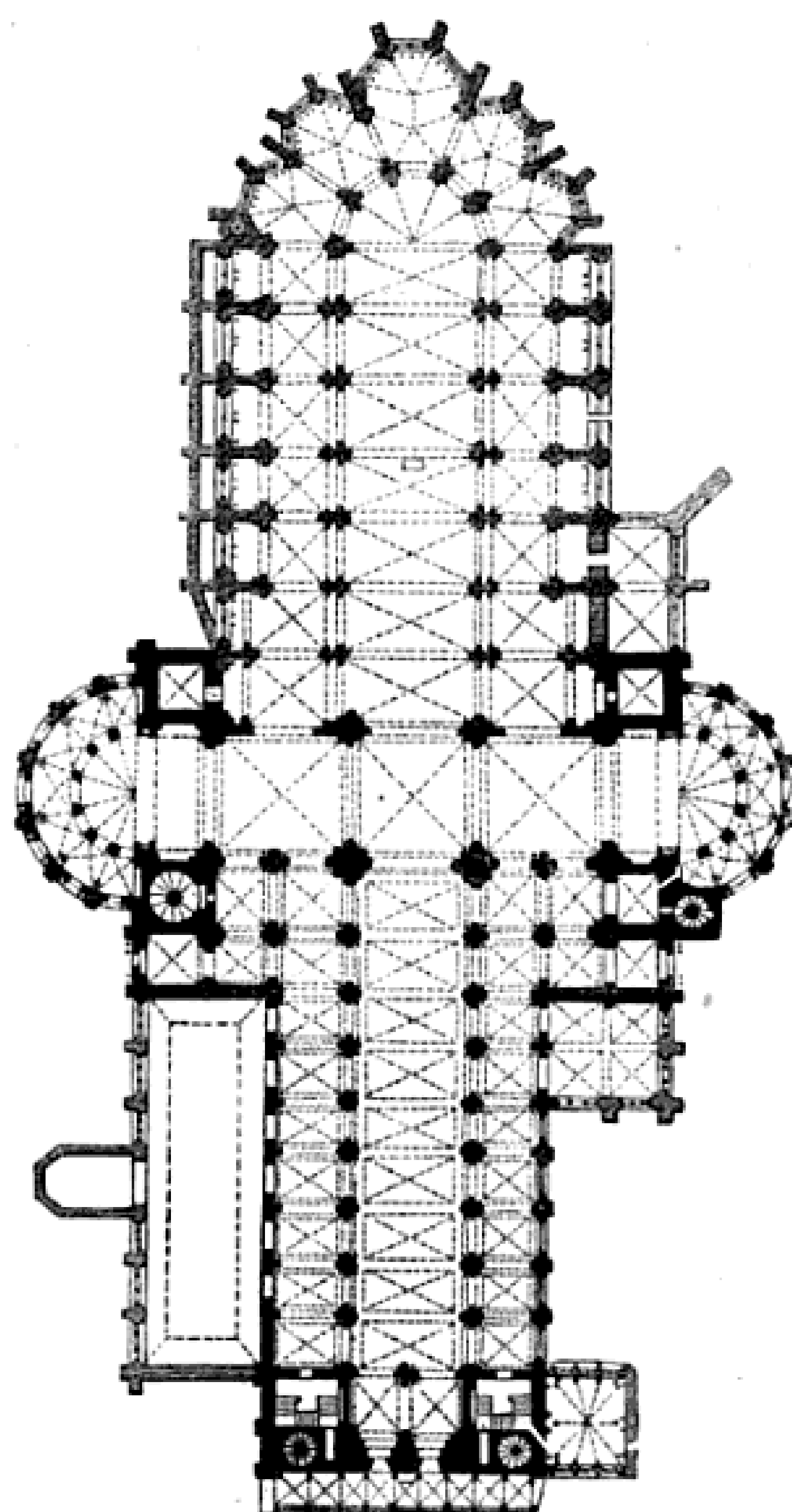
Even the devastation by the Normans in the 9th and 10th centuries seems to have passed more lightly over this country than any other in the North of Europe. They burned and destroyed indeed many of the more flourishing cities, but they did not occupy them, and when they were gone the inhabitants returned, rebuilt their habitations, and resumed their habits of patient self-supporting labour; and when these inroads ceased there was nothing to stop the onward career of the most industrious and commercial community then established in Europe.


588. View of West-end of Church at Nivelles. From a Sketch by the Author.

Of the oldest churches of Belgium, a large proportion are known to us only by tradition, having been pulled down to make way for the larger and more splendid buildings which were demanded by the continually increasing wealth and population of the cities. Of those which remain, one of the oldest and most interesting is that of St. Vincent at Soignies, built in 965 by Bruno, archbishop of Cologne, and though probably not quite finished within that century, it still retains the features of the 10th century more completely than almost any church in Europe. This church, that of St. Michele at Pavia, and the

Minster at Zurich, constitute a trio very similar to one another in design and in size, and differing principally in the degree of finish they display, this being by far the rudest in construction of the three. It possessed originally a western tower and a central lantern, the upper parts of both which are modernized. The east end was square, though possessing a shrine, the tomb of the saint whose name it bears. It may have been altered, and is built up on the outside so as to render examination impossible.

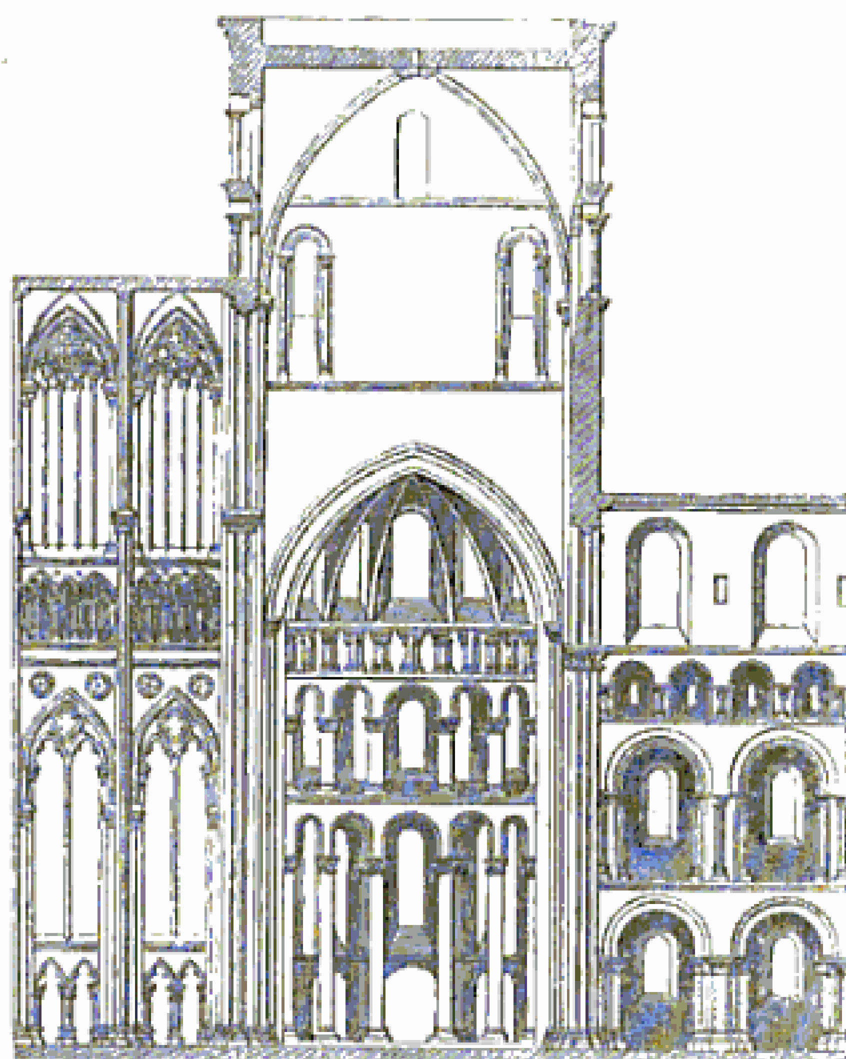
Another church, only slightly more modern, that of St. Gertrude at Nivelles (woodcut No. 588), presents the same peculiarity, of having a square termination towards the east, though it seems originally to have had an apse at the west end, where the façade was carried up to a considerable height, and adorned in the centre by a square tower, flanked by a circular one on each side. The latter retain their original form, though the central tower has been rebuilt in the 15th century. This church was built in the earliest years of the 11th century, and dedicated in 1045, the Emperor *Henry* IV. assisting at the ceremony. It is a first-class church with two transepts, and remains externally in all essential particulars as then built. The interior was entirely destroyed in the middle of the last century, which is a very great loss, although the new arrangement which has replaced it is in itself remarkably well designed.



589. Plan of Cathedral at Tournay. Scale 100 ft. to 1 in.

Passing over some minor examples, we come to the cathedral of Tournay, to the architect and artist the most interesting of the province. It is a first-class cathedral, more than 400 ft. in length, and covering with its dependencies an area of 62,525 ft. It consists of a nave, dedicated in 1066; of a transept, built about the year 1146; the choir, which formed part of this arrangement, was dedicated in 1213, but gave place about a century afterwards to that now standing, which

was dedicated in 1338, so that within itself it contains a complete history of the style; and though there is no doubt considerable incongruity in the three specimens here brought together, as they are the best of their respective classes in Belgium, the effect is not unpleasing, and their arrangement fortunate, inasmuch as, entering by the western door, you pass first through the massive architecture of the 11th to the bolder and more expanded features of the 12th century, a fitting vestibule to the exaggerated forms which prevailed during the 14th. In the woodcut (No. 590) the three styles are represented as they stand; but it would require far more elaborate illustration to do justice to the beauty of the deeply galleried nave, which surpasses any other specimen of Norman architecture, but which is here eclipsed by the two remaining apses of the transept. These, notwithstanding a certain rudeness of detail, are certainly the finest productions of their age, and as magnificent a piece of architecture as can be conceived. The choir is the least satisfactory part of the whole; for though displaying a certain beauty of proportion, and the most undoubted daring of construction, its effect is frail and weak in the extreme. Still, if the tracery were restored to the windows, and these filled with painted glass, great part of this defect might be removed. At the best, the chief merit of this choir is its clever and daring construction. Even in this the builder miscalculated his own strength, for it was found necessary to double the thickness of all the piers after they were first erected. This addition would have been an improvement if part of the original design, but seems now only to betray the weakness which it was meant to conceal.



590. Section of Central Portion of Church at Tournay, looking South. Scale 50 ft. to 1 in.

It is by no means clear that originally there were any entrances at the west front; at least there certainly was no central doorway; and probably the principal entrances were, as in most German churches, under lateral porches.

Externally, the west front had neither the flanking towers of the Norman church, nor the frontispiece usual in Germany, but terminated in a gable the height of the wooden roof of the nave. The original church was triapsal, and a large square tower adorned the intersection

of the nave and transept, which was originally surrounded by 6 tall square towers belonging to each of the apses. Four of these still exist, and with the remaining part of the central tower form as noble a group as is to be found in any church of this province. In its triapsal state, its superior dimensions and the greater height of its towers must have rendered it a more striking building than even the Apostles' Church at Cologne (woodcut No. 453), or indeed any other church of its age.

Besides the churches already described, there are a considerable number in Belgium belonging to the 11th century, such as St. Bartholomew at Liège; St. Servin's, Maestricht; the church at Ruremonde (almost an exact counterpart of the Apostles' Church at Cologne), and others of more or less importance scattered over the country. They almost all possess the peculiarity of having no entrance in their west fronts, but a massive screen or frontispiece surmounted by two or three towers. This was the arrangement of the old church of St. Jacques at Liège. The church of Notre Dame de Maestricht presents a somewhat exaggerated example of this description of front (woodcut No. 591). It is difficult to explain the origin of this feature, nor have we any reason to regret its abandonment. There can be no doubt that the proper place for the principal entrance to a church is the end opposite the altar, which this screen entirely barred.

Among the smaller antiquities of this age, none are perhaps more interesting than the little chapel of St. Sang, at Bruges, built by Thierry of Alsace, on his return from the Holy Land, A.D. 1150; it is



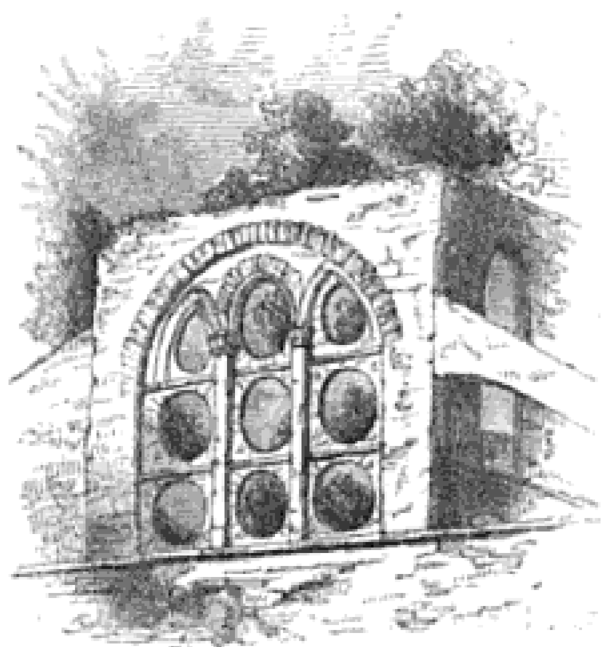
591. West Front of Notre Dame de Maestricht.
From Schaye's Belgium.



592. Spires of the Chapel of St. Sang, Bruges.
From a Sketch by the Author.

a small double chapel, very like those already described as so common in Germany (p. 584, and woodcuts Nos. 462 and 463), but less ornate than these generally were; at one angle of it are two spires, represented in woodcut No. 592. The more slender of these would not excite remark if found in Cairo or Aleppo, so exactly does it take the Eastern form; the other, on the contrary, seems to belong to the 16th or 17th century: it is only one, however, of the numerous instances that go to prove how completely art returned, at the period called the Renaissance, to the point from which it started some four or five centuries earlier. It returned with something more of purity of detail and better construction, but unfortunately without that propriety of design and grandeur of conception which mark even the rude buildings of the first *naissance* of Gothic art.

Belgium is rich in small specimens of transitional architecture, and few of her more extensive ecclesiastical establishments are without some features of this class, often of great beauty. Their age has not yet, however, been determined with anything like precision by the Belgian antiquaries; but on the whole, it seems that in this, as in most other respects, this country followed the German much more closely than the French type, hesitating long before it adopted the pointed arch, and clinging to circular forms long after it had familiarly employed the pointed arch, oscillating between the two in a manner very puzzling, and requiring more care in determining dates than any other part of Europe. Besides this, none of the Belgian buildings have yet been edited in such a manner as to afford materials for the establishment of any certain rule. Perhaps the most interesting specimen of the transitional period, and certainly one of the most beautiful ruins in the country, is the abbey church of Villers, near Genappe, a building 338 ft. in length by 67 in width, built with all the purity of what we would call the Early English style, but with a degree of experimental imperfection in the tracery of which I hardly know an example elsewhere. The representation here given of one of the windows of the transept will explain this, and throughout the tracery consists of holes cut into slabs in this manner; yet this church is said to have been commenced in 1225, and only finished in 1276. In Germany such a date would be probable; in France a similar specimen would be assigned to a period from 70 to 100 years earlier.



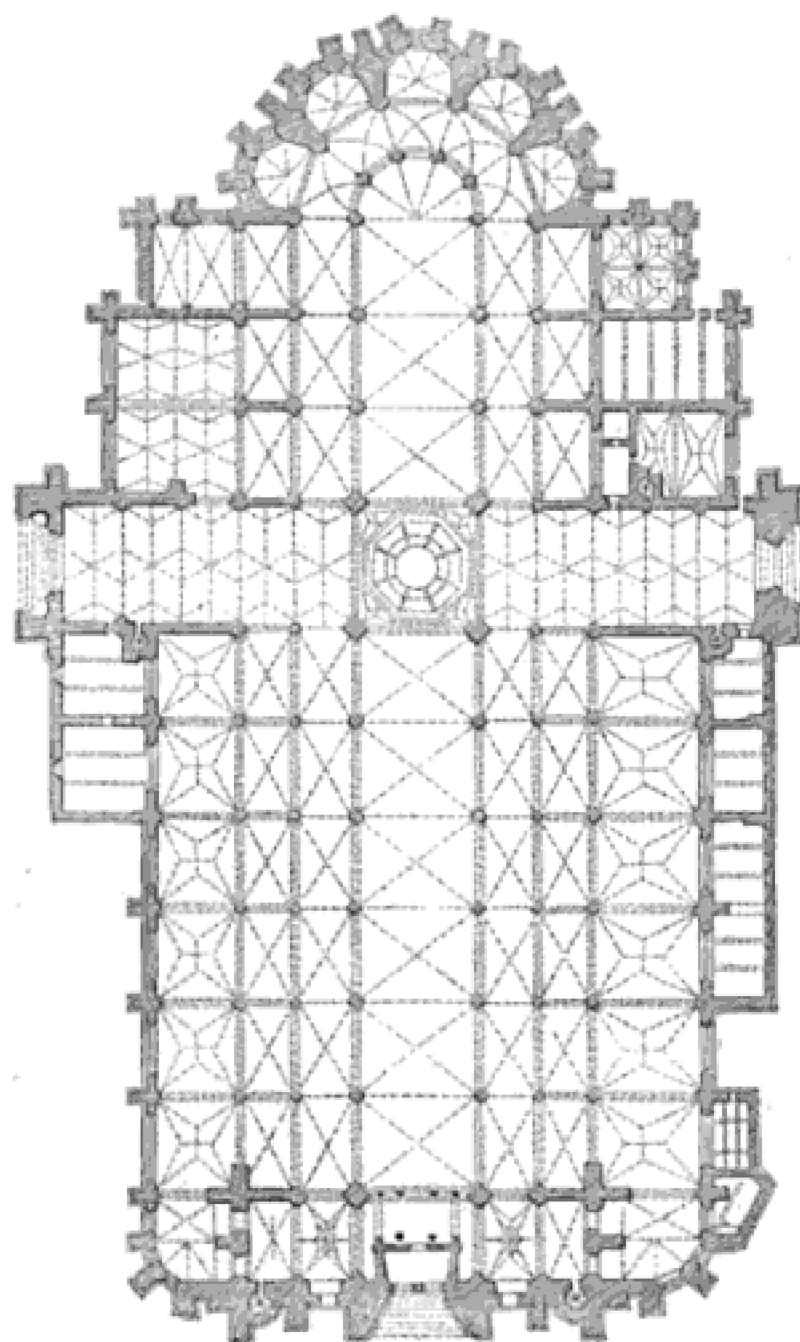
593. Window in Church at Villers, near Genappe. From a Sketch by the Author.

Among the many efforts made in Belgium to get rid of the awkwardness of the pointed form for windows, was that in the choir of Notre Dame de la Chapelle, at Brussels (1216?), where the circular tracery is inserted in a circular-headed window, producing a much more pleasing effect, both internally and externally, than the pointed

form, except with reference to the vault, with which it is so little in accordance that the experiment seems to have been abandoned, and no attempt made afterwards to renew it.

Besides those already mentioned, Belgium possesses about twenty first-class churches of pointed architecture, all deserving attentive consideration, and some of them almost unrivalled edifices of their class. Among the earliest of these is the cathedral of Liège, begun in 1189, exhibiting the style in great purity. It has no western entrance, but, like St. Croix, St. Jacques, and all the principal churches of this city, is entered by side porches.

A little later we have the eastern parts of St. Gudule, Brussels (A.D. 1220), and two other very beautiful churches: Notre Dame de Tongres (1240), and St. Martin, Ypres (1254). The latter is perhaps the purest and best specimen of the Gothic of the 13th century in Flanders; and of about the same age is the beautiful church of N. D. de Dinant. These are almost the only important specimens of the contemporary art which still excites our admiration in all the principal cities of France—though almost all the great cathedrals in that country belong to this age, so prolific of great buildings also in England.



594. Plan of the Cathedral at Antwerp. Scale 100 ft. to 1 in.

In the next century we have N. D. de Huy (1311), the beautiful parish church at Aerschot (1337), and N. D. de Hal (1341)—small but elegant churches. The two crowning examples, however, of this age are N. D. of Antwerp (1352–1411), and St. Rombaut, Malines, commenced about the same time. Though internally finished so early, the works of its great tower, like those at Antwerp, were continued till late in the next century.

Antwerp cathedral is one of the most remarkable churches in Europe, being 390 ft. long by 170 in width inside the nave, and covering rather more than 70,000 square feet. As will be seen by the plan, it is divided into 7 aisles, which gives a vast intricacy and picturesqueness to the perspective; but there is a want of harmony among

the parts, and of subordination and proportion, sadly destructive of true architectural effect; so that notwithstanding its size, it looks much smaller internally than many of the French cathedrals of far less dimensions. If there had been at least 10 bays in the nave instead of only 7, and the central aisle had been at least 10 ft. wider, which could easily have been spared from the outer, the apparent size of the church would be very much greater; but besides this, it wants height, and its details show a decadence which nothing can redeem.

Its magnificent portal, with its one finished tower 406 ft. in height, was commenced in 1422, but only finished in 1518, and more in accordance with the taste of the 16th century than of the original design. Although it is, in consequence, impossible to be satisfied either with the outline or the detail, it is still so gorgeous a specimen of art, and towers so nobly over the buildings of the city, as to extort our admiration and regret that the sister tower was not also completed to make up a façade which then might for certain effects challenge any that the middle ages have produced.

The church of St. Rombaut at Malines, though very much smaller than that at Antwerp, being only 300 ft. in length internally, and including the tower, only 385 ft. over all externally, is still a far more satisfactory church in every respect. Indeed, it is one of the finest of those which have round pillars in the nave instead of the clustered columns which give such beauty and such meaning to most of the churches of this age. It was originally designed to have one western spire, which, if completed, would have risen to the height of nearly 550 English feet. It was never carried higher than to the commencement of the spire, 320 ft., and at that height it now remains. Even as it is, it is one of the noblest erections of the middle ages, the immense depth of its buttresses and the boldness of its outline giving it a character seldom surpassed.

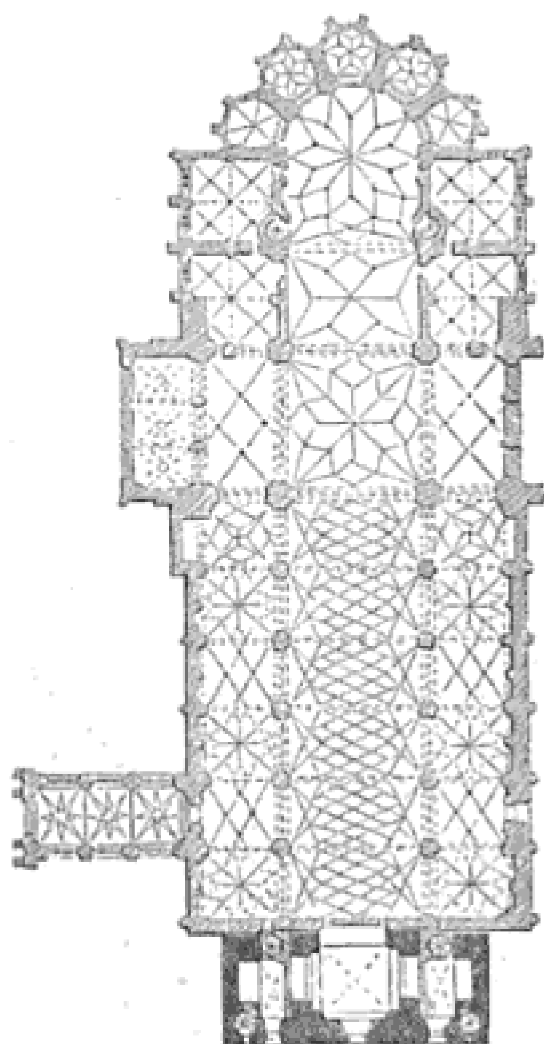
St. Pierre's, of Louvain, is a worthy rival of these two; for though perhaps a century more modern, or nearly so, it seems to have been built at once on a uniform and well-digested plan. This gives to the whole building a congruity which goes far to redeem the defects in its details. The façade has never been completed, which would have rendered it the noblest building of the three. It was designed on the true German principle of a great western screen, surmounted by three spires, the central one 535 ft. in height, the other two 430 ft. each.[1]

These are certainly the finest specimens of Belgian ecclesiastical art. Almost all the churches erected afterwards, though some of them very beautiful, are characterised by the elaborate weakness of their age. Among these may be mentioned St. Gommaire, at Lierre, commenced A.D. 1425, but not completed till nearly a century afterwards; and St. Jacques at Antwerp, a large and gorgeous church, possessing size and proportion worthy of the best age, but still unsatisfactory,

[1] A beautiful drawing of this façade to a very large scale still exists in the town-hall of the city, and a model in stone, from which the effect may be seen.

from the absence of anything like true art or design pervading it. The same remarks do not apply to St. Waudru at Mons, 1450-1528, one of the very best specimens of its age—pleasing in proportion and elegant in detail. Internally a charming effect of polychromy is produced by the cold blue colour of the stone, contrasted with the red brick filling in of the vault; this contrast being evidently a part of the original design. By some singular freak of destiny it has escaped whitewash, so that we have here one instance at least of a *true* mode of decoration, and to a certain extent a very good one. The exterior of this church is also extremely pleasing for its age. Its tower and spire are unfortunately among those that we know only from the original drawings, which are still preserved, and show a very beautiful design.

Of about the same age is St. Jacques at Liège (woodcut No. 595), a church of the second class in point of size, being only 254 ft. in length internally, by 92 ft. across the nave. At the west end it still retains the screen of the old church, marked in black on the plan. The principal entrance is a splendid porch of flamboyant design on the north. The east end may be said to be a compromise between the French and German methods. It is not a chevet, inasmuch as it has not the circumscribing aisle, while its circlet of chapels prevents its being considered as a German apse. Altogether its plan is characteristic of its locality, on the borders between France and Germany, mixing together most of the peculiarities of both countries. For its age too the details are generally good, but construction is no longer the ruling motive, and confusion is the result. The most remarkable thing about the church is, that it is one of the very few churches in Europe which retain their polychromatic decorations in anything like completeness, especially on the roof. The paintings here are late, bordering on the cinque-cento period; yet the effect produced, though gorgeous, is remarkably pleasing and beautiful, and ought at once and by itself to set at rest the question as to the expediency of painting the vaults of churches, or leaving them plain. My own conviction is, that all French vaults were once painted to as great an extent as this one is. Our English architects often, I believe, depended on form and carving, but on the Continent this could not be the case.



595. Plan of St. Jacques, Liège. From Weale's Architectural Papers. Scale 100 feet to 1 inch.

Of the remaining churches, St. Bavon's at Ghent, and St. Martin's at Liège, both commenced, as they now stand, in the middle of the 16th century, are among the most remarkable, and for their age wonderfully free from the vices of Renaissance. At the same age in France,

or even in England, they would have been Italianized to a far greater extent.

But there is scarcely a second-rate town or even a village in Belgium that does not possess a church of more or less importance of the Gothic age, or one at all events possessing some fragment or detail worthy of attentive study. This circumstance is easily explained, from the fact that during the whole of the Mediæval period, from the 10th to the 16th century, Belgium was rich and prosperous, and since that time till the present comparatively so poor as to have had no ambition to destroy, and no power to rebuild. Considering its extent, the country is indubitably richer in monuments than France, or perhaps any other country in Europe; but the architecture is certainly not so good or satisfactory.

CHAPTER II.

CONTENTS.

Civil Architecture — Belfries — Hall at Ypres — Louvain — Brussels — Domestic Architecture — Holland.

Civil Architecture.

The pre-eminence of Belgium consists in her civil, or rather her municipal edifices, which surpass those of any other country. None of these are very old, which is easily accounted for. The rise of commercial enterprise in Belgium, though early compared with other European nations, was far more recent than the age of military and ecclesiastical supremacy. In precisely the same degree castles and churches preceded the erection of town-halls.

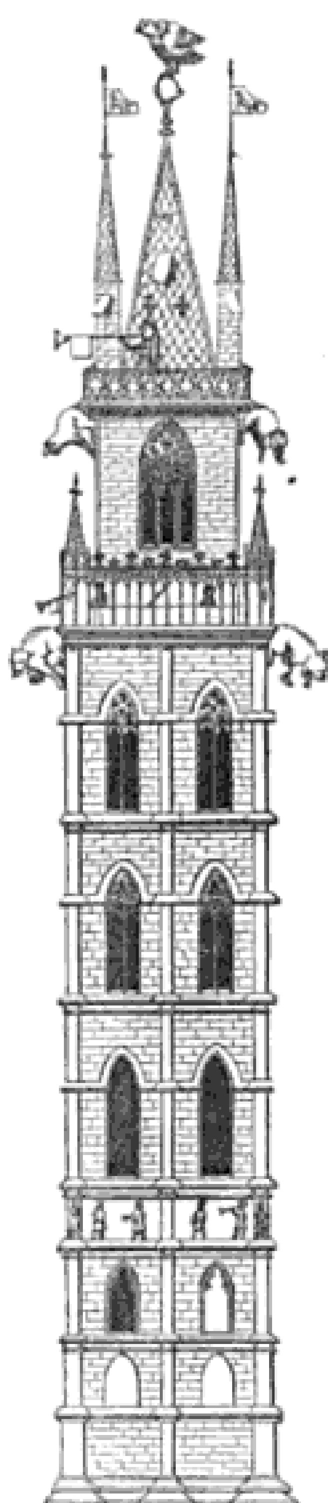
In the 12th century, when the monarchy of France was consolidating itself, the cities of Belgium were gradually acquiring those rights and privileges which soon placed them among the wealthiest and most prosperous communities of Europe. One of the earliest architectural expressions of their newly-acquired independence was the erection of a belfry. The right of possessing a bell was one of the first privileges granted in all old charters, not only as a symbol of power, but as the instrument for calling the community together, either with arms in their hands to defend their walls, to repress internal tumults, for the election of magistrates, or deliberation on the affairs of the commonwealth. The tower too on which the bell was hung was a symbol of power in all ages, and, whether on the banks of the Scheldt or the Po, the first care of every enfranchised community was to erect a "tower of pride" proportionate to their greatness.

The tower too was generally the record-office of the city, the place where the charters and more important deeds were preserved secure from fire, and in a place sufficiently fortified to protect them in the event of civic disturbances.

All these uses have passed away, and most of the belfries have either fallen into neglect or been removed or appropriated to other purposes. Of those remaining, the oldest seems to be that of Tournay, a fine tower, though a good deal altered and its effect destroyed by more modern additions.

The belfry at Ghent was commenced in 1183, but the stone-work was only completed in 1337. In 1376 a wooden spire was placed upon it, making up the height to 237 ft. This has been recently taken down in order to complete the tower according to the original design,

which, like that of most of the unfinished buildings of Belgium, has been carefully preserved. When finished it will be about 300 ft. in height, and one of the finest belfries in the country. The woodcut No. 596 is a reduction of the original drawing, which, though not so perfect as some others, gives a fair idea of what is intended.



596. Belfry at Ghent. From the original drawing.

The belfry of Brussels was one of the finest in the country, but after various misfortunes it fell in 1714, and is only known now by a model still preserved in the city.

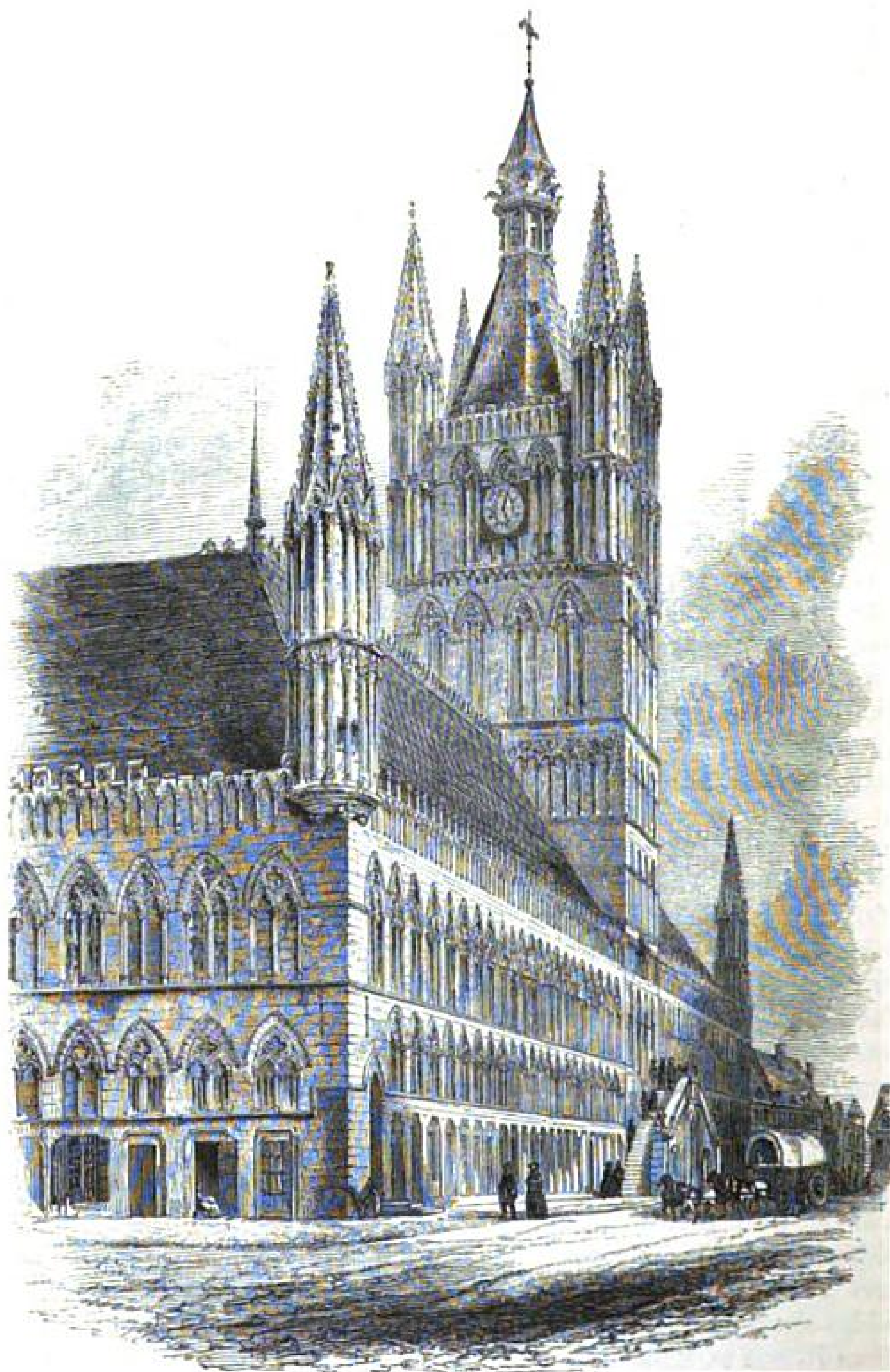
At Ypres and Bruges the belfries form part of the great halls of the city. Those of Lierre, Nieuport, Alost, Furnes, and other cities, have been all more or less destroyed by alterations, and are more interesting to the antiquary than to the architect, besides that, like the cities themselves, they never can have been of the first class, or remarkable for any extraordinary magnificence.

The great municipal halls, which are found in all the principal cities of Belgium, are of three classes:—1. Town-halls—the municipal senate-houses and courts of justice. 2. Trade-halls or market-houses. The principal of these were cloth-halls, that being the great staple manufacture of Belgium during the middle ages. And lastly guildhalls, or the separate places of assembly of the different guilds or associated trades of the cities.

As far as existing examples go, it would appear that the trade-halls were the first erected. The cloth-hall at Ypres is by far the most magnificent and beautiful of these, as also the earliest. The foundation-stone was laid in 1200 by Baldwin of Constantinople, but it was not finished till 104 years afterwards. The façade is 440 ft. in length, and of the simplest possible design, being perfectly straight and unbroken from end to end. The windows of each story, being all of one design, are repeated, not only along the whole front, but at each end. Its height is varied by the noble belfry which rises from its centre, and by a bold and beautiful pinnacle at each end. The whole is of the pure architecture of the 13th century, and is one of the most majestic edifices of its class to be seen anywhere. It might perhaps have been improved by the greater degree of expression and the bolder shadows which lines brought down to the ground would have given it, but as it is, it is extremely pleasing from its simplicity and the perfect adaptation of its exterior to its internal arrangements. These consisted of one vast hall on the ground-floor, supported by several ranges of columns, with long galleries and great halls above it for the use of the trade to which it belonged.

The town-hall at Bruges is perhaps the oldest building erected

especially for that purpose in Belgium, the foundation-stone having been laid in 1377. It is a small building, being only 88 ft. in front by 65 in depth, of a singularly pure and elegant design. Its small



597. Cloth-hall at Ypres.

size causes it to suffer considerably from its immediate proximity to the cloth-hall and other trade-halls of the city. These, grouped with the belfry in their centre, occupy one end of the great Place, and, though

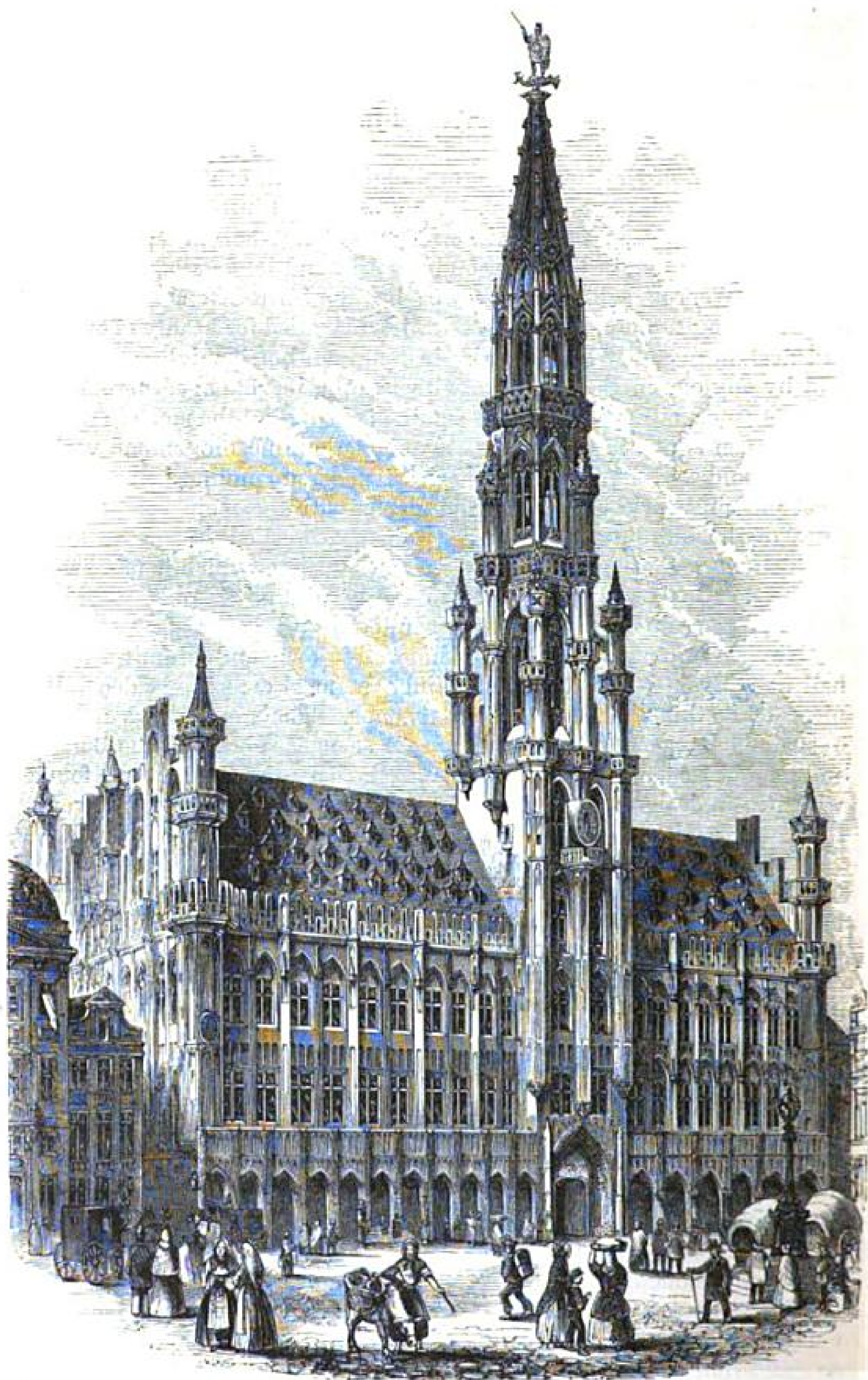
not remarkable for beauty, either of design or detail, still form a most imposing mass. The belfry is one of the most picturesque towers in the country. Its original height was 356 ft., which was diminished by about 60 ft. by the removal of the spire in 1741. It still towers above all the buildings of the city, and in that flat country is seen far and wide.

The finest of the town-halls of Belgium, built originally as such, is that of Brussels (woodcut No. 598), commenced in 1401, and finished in 1455. In dimensions it is inferior to the cloth-hall at Ypres, being only 264 ft. in length by about 50 in depth, and its details, as may be supposed from its age, are less pure; but the spire that surmounts its centre, rising to the height of 374 ft., is unrivalled for beauty of outline and design, not only by any spire in Belgium, but it might almost be said by any one in Europe. Notwithstanding its late age, there is no extravagance, either in design or detail, about it; but the mode in which the octagon is placed on the square, and the outline broken and varied by the bold and important pinnacles that group around it, produce a most pleasing variety, without interfering with the main constructive lines of the building. The spire, properly so called, is small, so that its open-work tracery is pleasing and appropriate, which is more than can be said for some of its German rivals, where it is quite unsuited to the large scale on which it is attempted.

Next in importance to this is the well-known and beautiful town-hall at Louvain (1448–1463), certainly the most elaborately decorated piece of Gothic architecture in existence. Though perhaps a little over done in some parts, the whole is so consistent, and the outline and general scheme of decoration so good, that little fault can be found with it. In design it follows very closely the hall at Bruges, but wants the tower, which gives such dignity to those at Brussels and Ypres.

Towards the end of the same century (1481) the inhabitants of Ghent determined on the erection of a town-hall, which, had it ever been finished, would have surpassed all the others in size and richness, though whether it would have equalled them in beauty is more than doubtful. After a century of interrupted labour the design was abandoned before it was more than two-thirds completed, and now that age has softened down its extravagances, it is a pleasing and perhaps beautiful building. Nothing, however, can exceed the extent of tormented and unmeaning ornament that is spread over every part of it, showing great richness certainly, but frequently degenerating into very bad taste. The architecture of the hall at Ypres, though only half or one-third as costly in proportion to its extent, is far nobler and more satisfactory than this ever could have been. But the day of true art was past, and its place was sought to be supplied by the mere extent of ornament.

The same remarks apply to the town-hall at Oudenarde, a building evidently meant as a copy of that at Louvain, combined with a belfry, an imitation of that at Brussels. The result is certainly rich and pleasing in its general effect; but the details of its age (1525) have marred the execution, and given to the whole a clumsiness and a



598. View of Town-hall, Brussels.

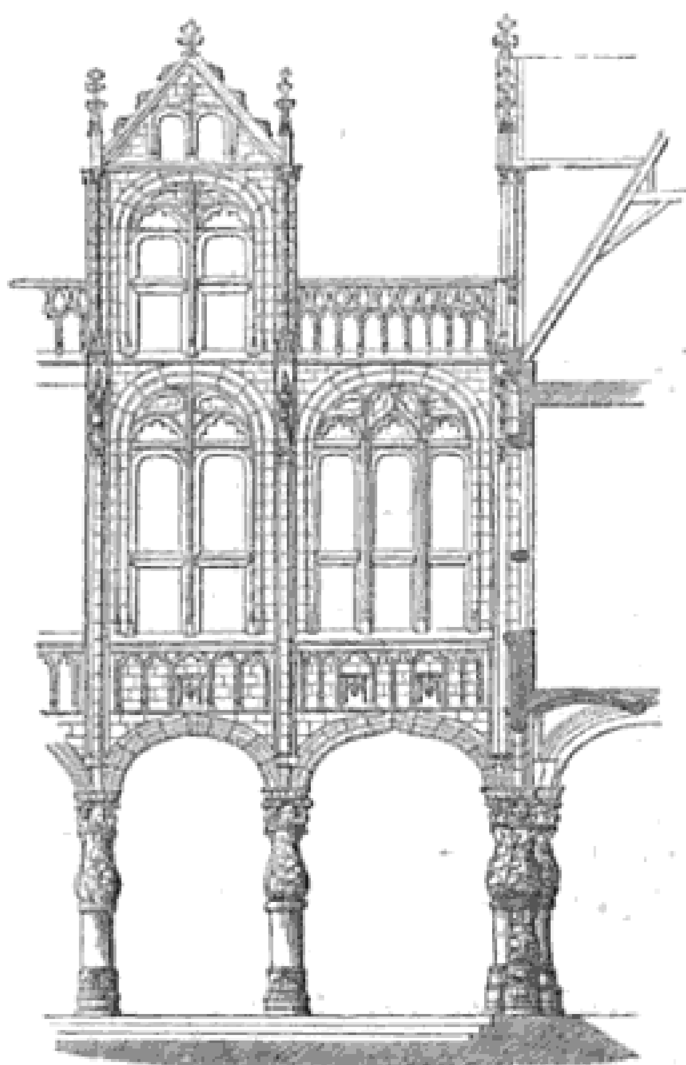
flimsiness that greatly detract from its beauty. Even the effect of the belfry is spoiled by the temptation to exhibit a masonic trick, and make it appear as if standing on the two slight pillars of the porch. It is clever, but apparent stability is as necessary to true architectural beauty as real stability is to the dignity of the art.

Among the smaller halls that of Mons is perhaps the most elegant, and very similar to that of St. Quentin, which, though now in France, was a Flemish city at the time of its erection.

In the days of her magnificence Mechlin attempted the erection of a splendid hall, which was intended to rival those of any of the neighbouring towns. Civic troubles, however, put a stop to the work before it was carried so far as to enable us now even to determine what the original design was.

Among minor edifices of the same class may be mentioned the cloth-halls of Louvain and Ghent, both of the best age, though small; and the Boucheries or meat-markets of Diest, Ypres, Antwerp, and other towns—the boatmen's lodge at Ghent, and the burgesses' lodge at Bruges, besides numerous other scattered memorials of civic magnificence that meet one everywhere in this great emporium of mediæval industry.

Of palaces, properly so called, little remains in Belgium worthy of notice, unless it be the palace of the Bishop of Liège (woodcut No. 599), which, as far as size and richness of decoration are concerned, almost deserves the reputation it has attained. It was, however, unfortunately commenced at an age (1508) when the Gothic style was all but extinct, and it is impossible to admire its stunted columns and flat arches in such immediate proximity with the purer works of the preceding centuries.



599. Part of the Bishop's Palace, Liège. No scale.

Of the same age and style is the Exchange at Antwerp (1515). This building is more pleasing in its details, the merchants having apparently clung longer to the spirit that animated their forefathers than the clergy, who earlier felt the influence of the Italian Renaissance. Neither of them can be called in strictness Gothic buildings, for the true spirit of that art had perished before they were commenced.

Many of the private dwelling-houses in the Flemish cities are picturesque and elegant, though hardly rising to the grade of specimens of fine art; but when grouped together in the narrow winding

streets, or along the banks of the canals, the result is so varied and charming that we are inclined to ascribe to them more intrinsic beauty than they really possess as individual designs. Most of them are of brick, and using the brick undisguisedly, and depending wholly on such forms as could be given to that material, they never offend our taste by shams; and the honest endeavour of the citizens to ornament their dwellings externally meets here with the success that must always follow such an attempt. To exhibit this class of structures adequately would require far more illustration than is compatible with a work like the present, and would occupy the space that more properly belongs to buildings of a larger and more monumental class, and of higher pretensions to architectural effect, both in their design and the mode in which it is carried out.

BOOK V.

GERMANY.



CHAPTER I.

CONTENTS.

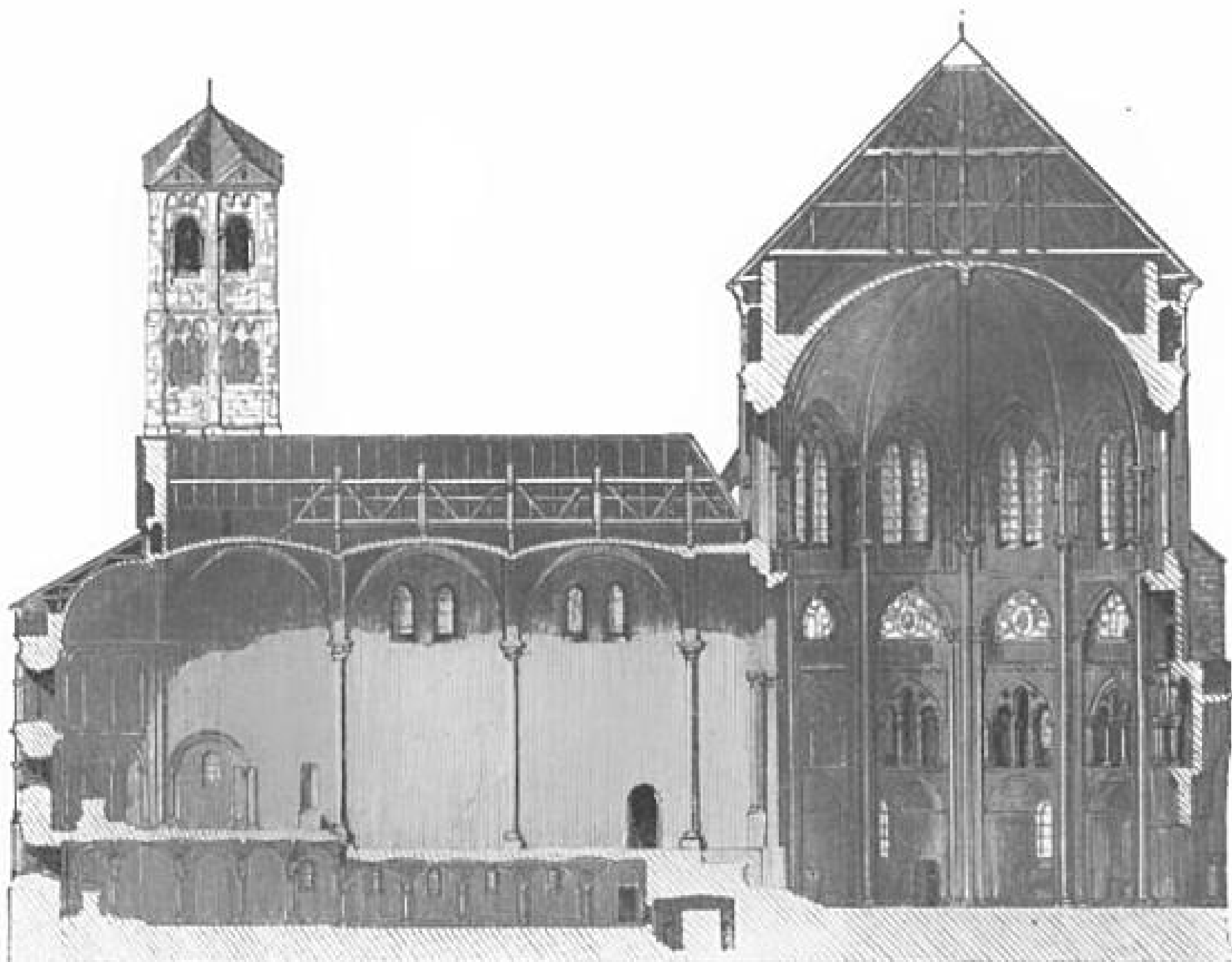
POINTED STYLE IN GERMANY.

HAVING now traced the history of the pointed style of architecture from its origin in France till it reached its highest degree of development and culture in that country and in Belgium, it will now be convenient to return to the point where we left the history of the art in Germany, and resuming the thread of our narrative to follow its history in that country, and point out the peculiarities which it there assumed.

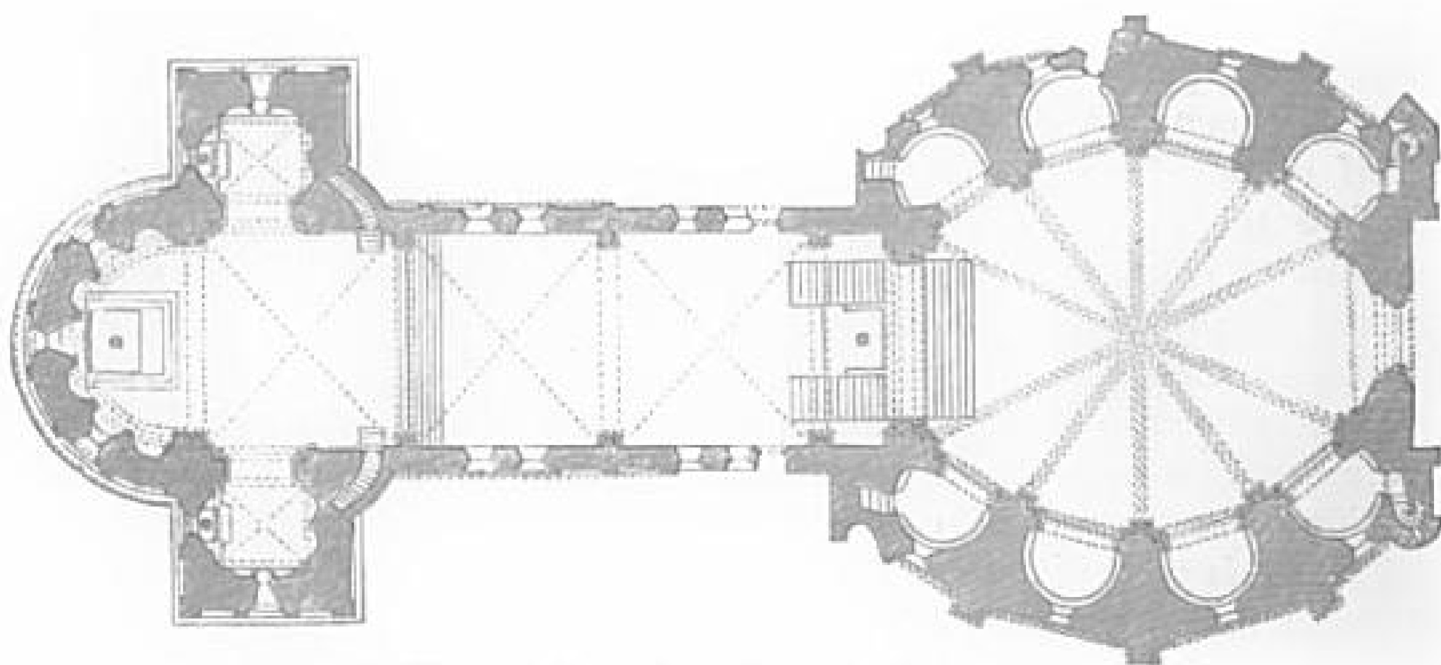
It is scarcely necessary to repeat—what has been already perhaps sufficiently insisted upon—that the Germans borrowed their pointed style from the French at a period when it had attained its highest degree of perfection in the latter country. At all events, we have already seen the pointed style commonly used in France in the first half of the 12th century, and nearly perfect in all essential parts before the year 1200; whereas, though there may be here and there a solitary instance of a pointed arch in Germany (though I know of none) before the last-named date, there is certainly no church or building erected in the pointed Gothic style whose date is anterior to the first years of the 13th century. Even then it was timidly and reluctantly adopted, and not at first as a new style, but as a modification to be employed in conjunction with their old forms.

This is very apparent in the polygonal part of the church of St. Gereon at Cologne (woodcuts Nos. 600 and 601), commenced in the first year of the 13th century, and vaulted about the year 1227. The plan of the building is eminently German, being in fact a circular nave, as contradistinguished from the French chevet, and is a fine bold attempt at a domical building, of which it is among the last examples. In plan it is an irregular decagon, 55 ft. wide over all, north and south, and 66 ft. in the direction of the axis of the church. Notwithstanding the use of the pointed arch, the details of the building are as unlike

the contemporary style of France as the plan; it is, in fact, nearly a century behind in the employment of all those expedients which give character and meaning to the true pointed style.



600. Section of St. Gereon, Cologne. From Boisserée, Nieder Rhein. Scale 50 ft. to 1 in.



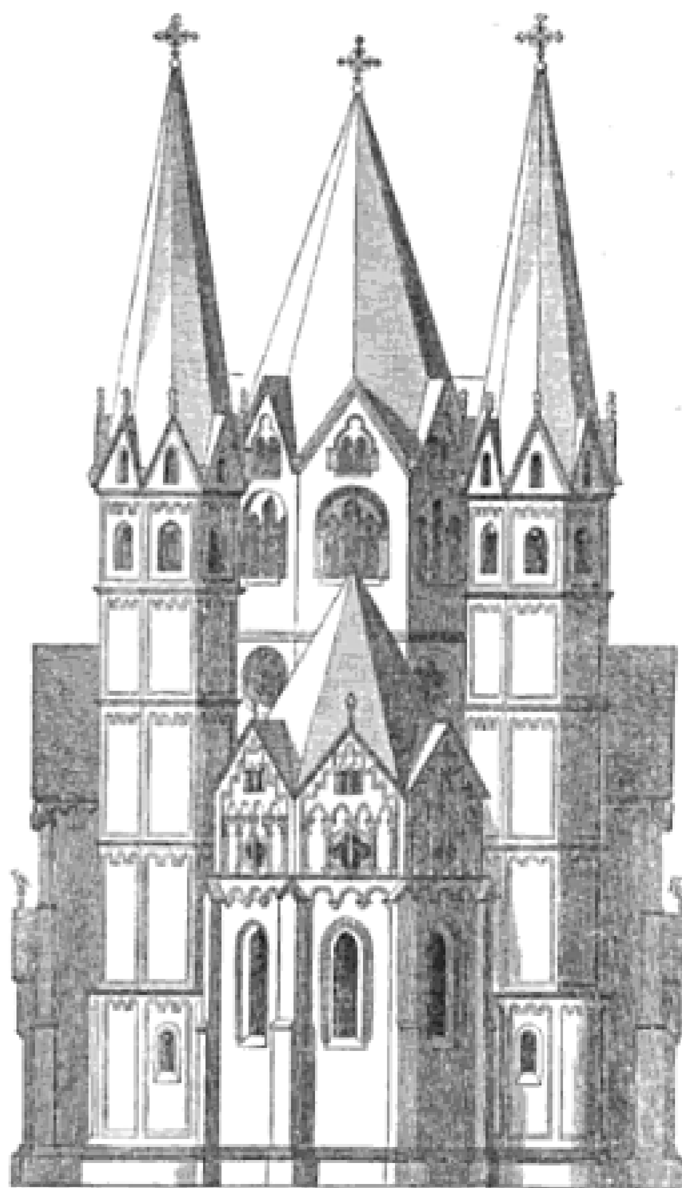
601. Plan of St. Gereon, Cologne. From Boisserée. Scale 50 ft. to 1 in.

Another church in the same city, St. Cunibert, is a still more striking example of this. Commenced in the first decade of the 13th century, and dedicated in 1248, the very year in which it is said the foundation-stones of the cathedral were laid, it still retains nearly all the features of the old German style, and though pointed arches are

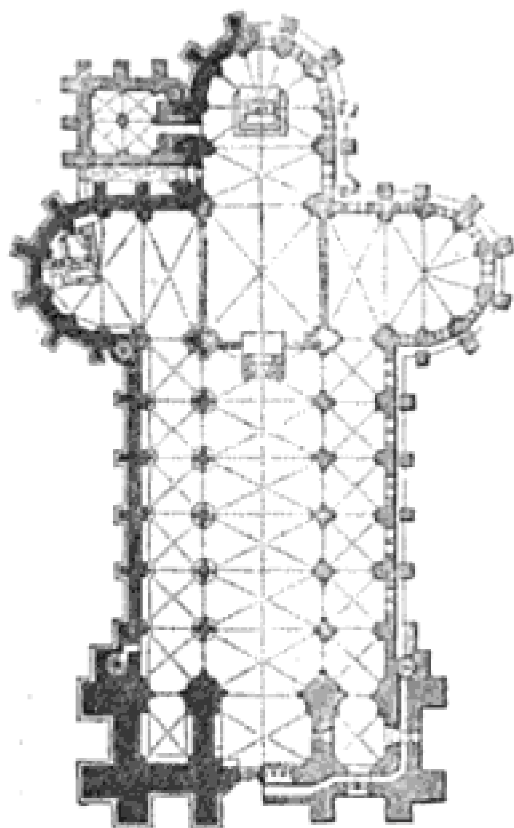
introduced, and even tracery to a limited extent, it is still very far removed from being what could be considered an example of the new style.

More advanced than either of these is the choir of the Cathedral of Magdeburg, said to have been commenced in 1208, and dedicated in 1254. This was built, as before mentioned, to supply the place of the old circular church of Otho and his English queen Edith. Hence it naturally took the French chevet form, of which it is, I believe, the earliest example in Germany, and of which it also copied rudely and imperfectly the details. Still it possesses the polygonal plan, the graduated buttresses, the decorative shafts, and other peculiarities of the French style, and if found in that country, would be classed as of about the same age as St. Denis. The upper part of the choir and the nave are of very much later date, and will be mentioned hereafter.

A more interesting example of transition than this is the church at Gelnhausen, unfortunately not of well-known date, but apparently built in the middle of the 13th century, and the choir, it is said, not finished till 1370. Its interest lies in its originality, for though adopting the pointed arch, it does so in a manner very different from the French, and as if the architects were determined to retain a style of their own. In general design its outline is very like that of the church at Sinzig (woodcut No. 457), and it even attempts to copy its galleries, but allowing their pillars to stand in front of windows, a mistake afterwards carried in Strasburg and elsewhere to a far more fatal extent. Taken altogether, the style here exhibited is light and graceful; but it neither has the stability of the old Round-arched Gothic, nor the capabilities of the French pointed style. The church of Sta. Maria attached to the cathedral at Trèves is another of the anomalous churches of this age: its plan has already been given (woodcut No. 442), and was probably suggested by the form of the old circular building which it supplanted (1227 to 1243). Perhaps from its proximity to France it shows a more complete Gothic style than either of those already mentioned; still the circular arch continually recurs in doorways and windows, and altogether the uses of the pointed forms and the general arrangement of parts and details cannot be said to be well understood. There is, however, a novelty, truly German, in its


602. East-end of Church at Gelnhausen. No scale.

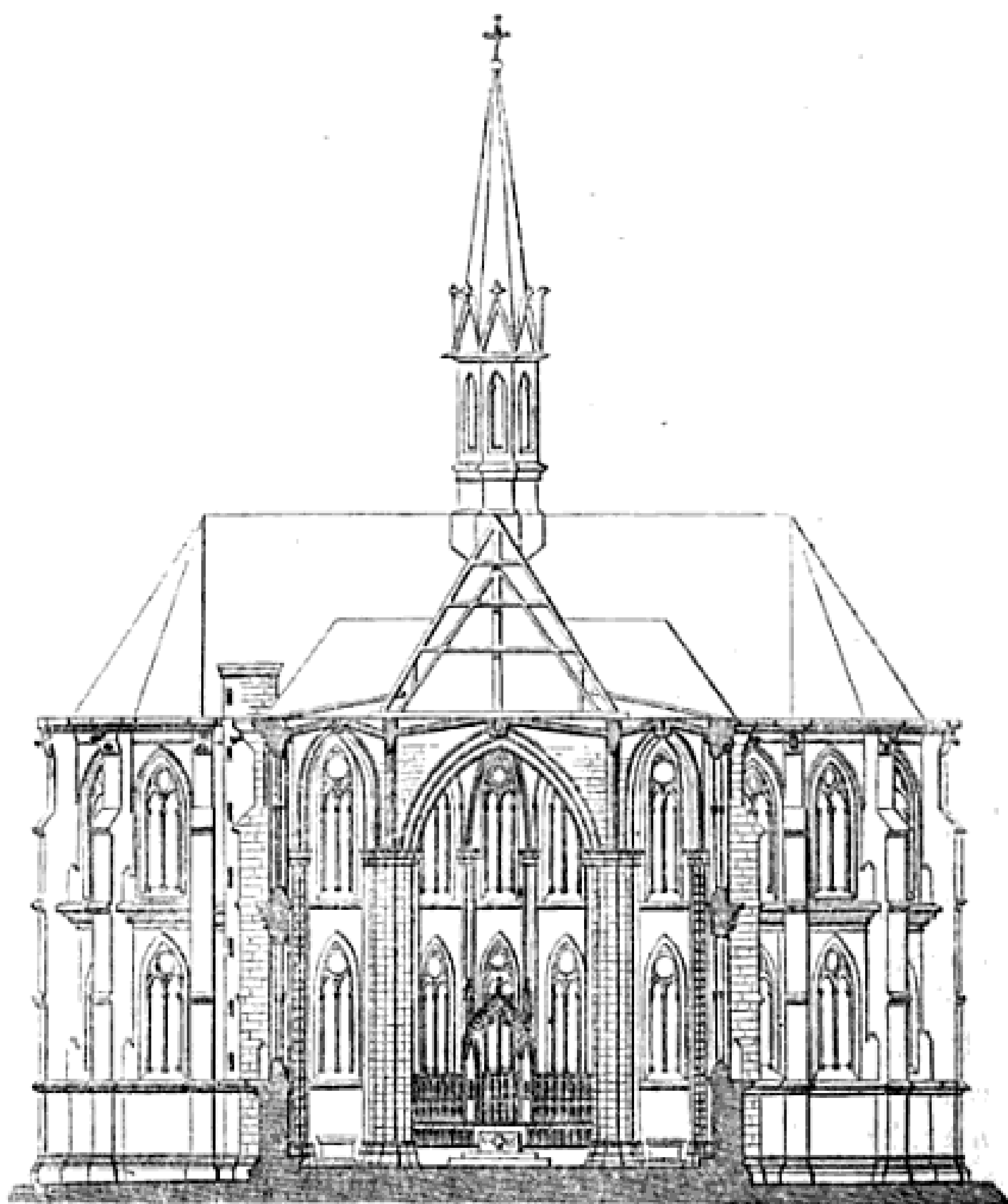
plan, and a simplicity about its arrangement, which make it the most pleasing specimen of the age, and standing on the foundation of the old church of Sta. Helena, and grouped with the Dom or cathedral, it yields in interest to few churches in Germany



603. Plan of the Church at Marburg. From Moller's Denkmäler. Scale 100 ft. to 1 in.

From these we may pass at once to two churches of well-authenticated date and of purely French style. The first that of St. Elizabeth at Marburg. Her name has been already mentioned (p. 588) as adding interest and sanctity to the old castle on the Wartburg. Four years after her death she was canonised, and in the same year, 1235, the foundation was laid of this beautiful church, which was completed and dedicated forty-eight years afterwards, in 1283.

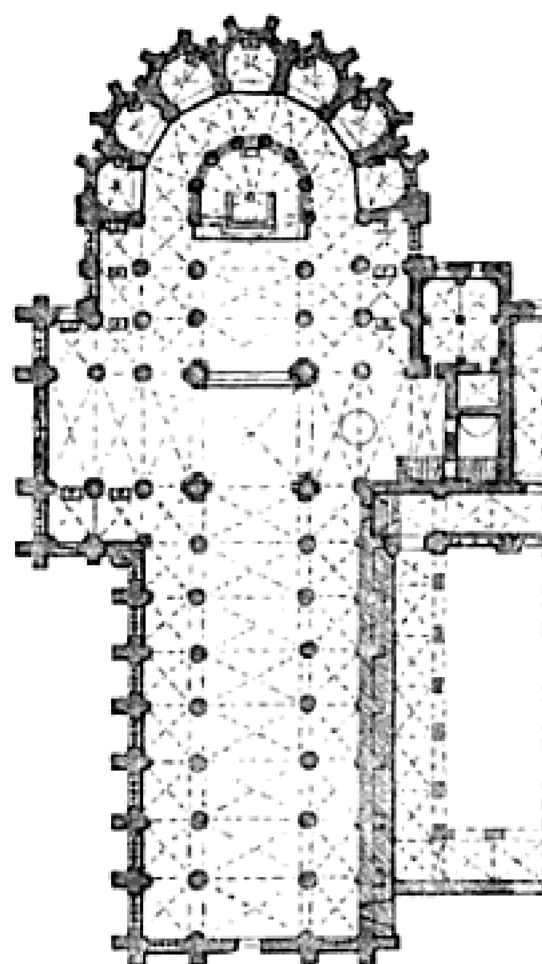
It is a small church, being only 208 ft. in length by 69 in width internally, and though the details are all of good early French style, it still exhibits several *Germanisms*, being triapsal in plan,



604. Section of Church at Marburg. Scale 50 ft. to 1 in.

and the three aisles being of the same height. The latter must be considered as a serious defect, for besides the absence of contrast, either the narrow side-aisles are too tall or the central one too low. This has also caused another defect, of two stories of windows throughout in one height of wall, and without even a gallery to give meaning to such an arrangement. No French architect ever fell into such a mistake, and it shows how little the builders, who could not avoid such a solecism, understood the spirit of the style they were copying. The west front with its two spires is somewhat later in date, but of elegant design and pleasingly proportioned to the body of the church, which is rarely the case in Germany.

The other church is that at Altenbürg, not far from Cologne, on the opposite side of the river Rhine. The foundation-stone was laid in 1255, and the chapels round the choir completed within a few years of that time, but the works were then interrupted, and the greater part of the church not built till the succeeding century. Like all the early churches of the Cistercian Order it is without towers, and extremely simple in its outline and decorations. It is, in fact, almost a copy of the abbey of Pontigny (woodcut No. 558), which was built fully a century earlier, and though it does show some advance in style in the introduction of tracery into the windows, and more variety of outline externally, it is remarkable how little progress it evinces in the older parts. In the subsequent erection there are some noble windows filled with tracery of the very best class, which render this church the best counterpart Germany can produce for our own Tintern Abbey, which it resembles in many respects. Indeed, taken altogether, this is perhaps the most satisfactory church of its age and style in Germany, in the erection of which the fewest faults have been committed. It has been recently rescued from ruin by the King of Prussia, but its beautiful conventual buildings have been destroyed by fire.

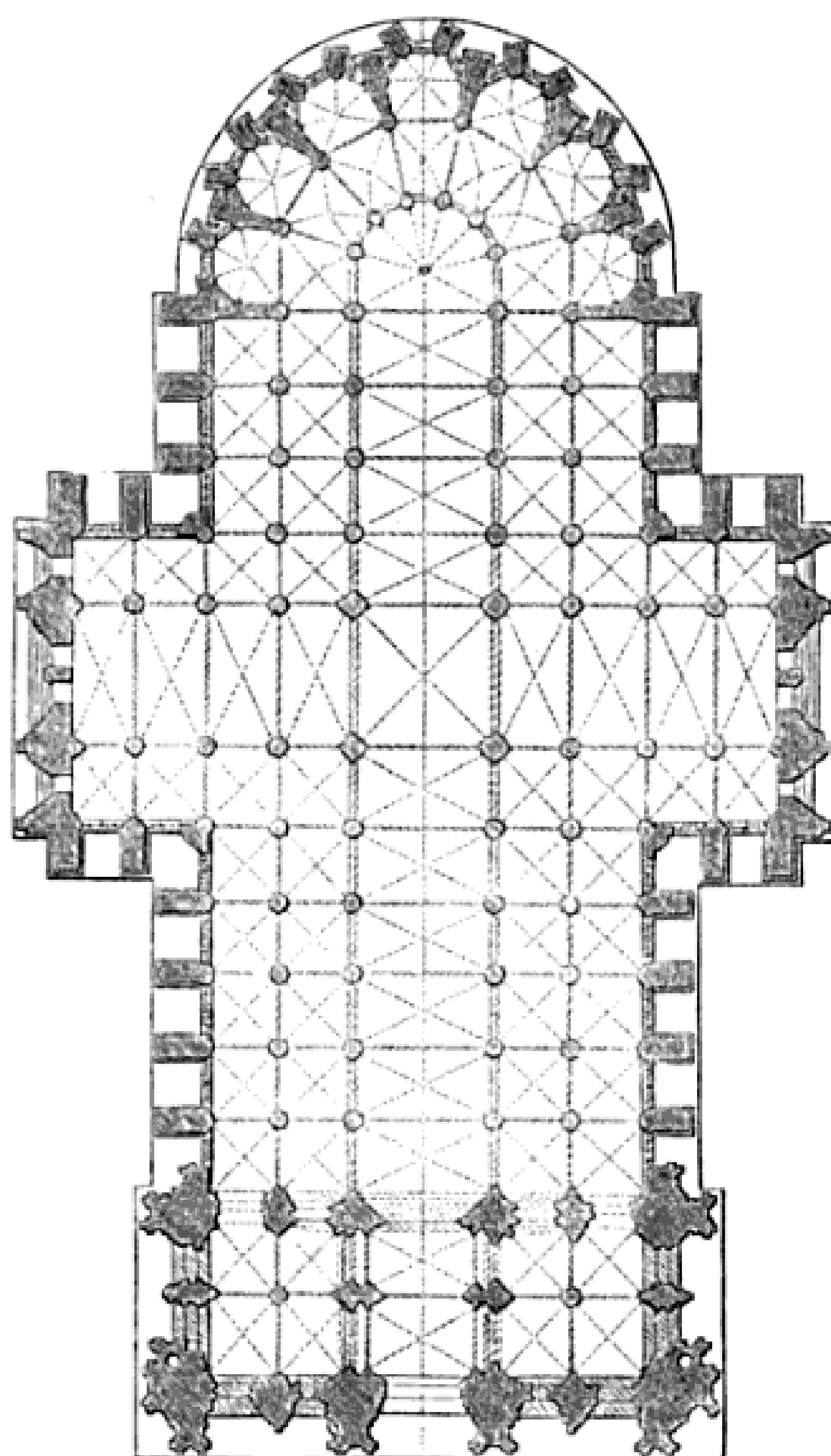


605. Plan of Church at Altenbürg.
Scale 100 ft. to 1 in.

These examples bring us to the great typical cathedral of Germany, that of Cologne, which is certainly one of the noblest temples ever erected by man in honour of his Creator. In this respect Germany has been more fortunate than either France or England, for though in the number of edifices in the pointed style and in beauty of design these countries are far superior, Germany alone possesses one pre-eminent example in which all the beauties of its style are united.

Generally speaking, it is assumed that the building we now see is that commenced by Conrad de Hochsteden in the year 1248. More

recent researches have proved that what he did was to rebuild or restore the old double apse cathedral of the 9th century. But the examples just quoted, if no other proof were available, are sufficient to show that the Gothic style was hardly then introduced into Germany, and but very little understood when practised. It seems that the present building was begun about the year 1270–1275, and the choir completed in all essentials as we now find it by the year 1322.[1] Had the nave been completed at the same rate of progress, it would have shown a wide deviation of style, and the western front, instead of being erected according to the beautiful design preserved to us, would have been covered with stump tracery, and other vagaries of the late German school, all of which are even now observable in the part of the north-west tower actually erected. As it is now being completed according to the original design, one of its principal beauties will be the uniformity of style that will reign throughout. In dimensions it is the largest cathedral of northern Europe, its extreme length being 445, its extreme breadth 250, and its superficies 81,464 ft., which is 10,000 ft. more than are covered by Amiens, and at least 15,000 more than Amiens was originally designed to cover. On comparing the eastern halves of these two from the centre of the intersection of the transept, it will be found that Cologne is an exact copy of the French cathedral, not only in general arrangement, but also in dimensions, the only difference being a few feet of extra length



606. Plan of Cathedral at Cologne. From Boisserée. Scale 100 ft. to 1 in.

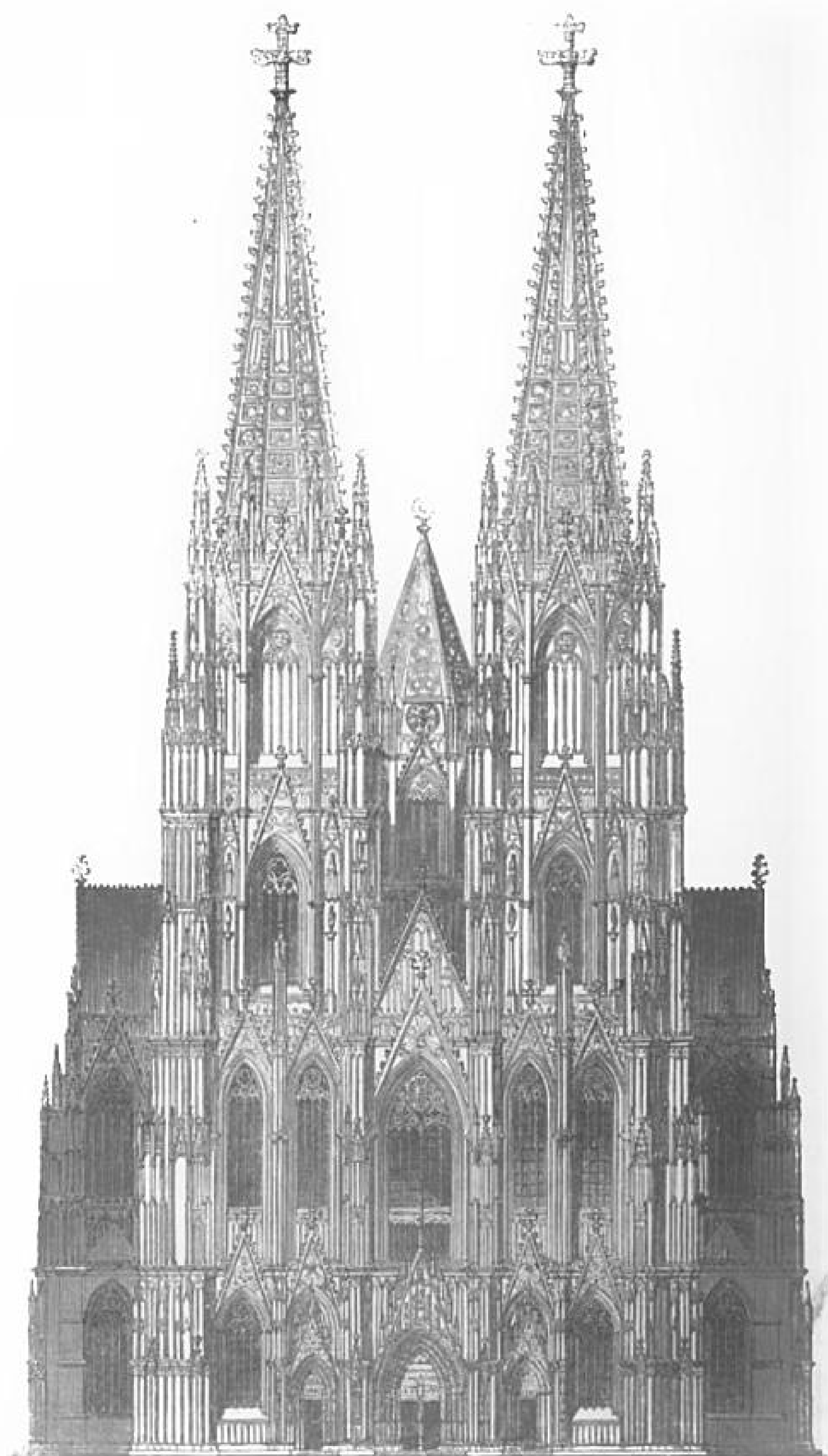
[1] The best *résumé* of the arguments on this question will be found in the controversy carried on by F. de Verneilh, the Baron de Rosier, and M. Boisserée, in Didron's Annales Archéologiques, vol. vii. *et seq.*

of the choir at Cologne, more than made up at Amiens by the projection of the lady chapel. The nave, too, at Cologne is one bay less in length. On the other hand, the German building exceeds the French by one additional bay in each transept, the two extra aisles in the nave, and the enormous substructures of the western towers. All these are decided faults of design into which no French architect would have fallen.

Looking at Cologne in any light, no one can fail to perceive that its principal defect is its relative shortness. If this was unavoidable, at least the transept should have been omitted altogether as at Bourges, or kept within the line of the walls, as at Paris, Rheims, and elsewhere. It is true, our long low English cathedrals require bold projecting transepts to relieve their monotony; but in Cologne their projection detracts both internally and externally from the requisite appearance of length. Indeed, this seems to have been suspected, as the façades of the transepts were the least finished parts of the building when it was left, and the modern restorers would have done well if they had profited by the hesitation of their predecessors, and omitted an expensive and detrimental addition.

Another defect before alluded to is the double aisles of the nave. It is true these are found at Paris, but that was an early experiment. At Bourges the fault is avoided by the aisles being of different heights; but in none of the best examples, such as Rheims, Chartres, or Amiens, would the architects have been guilty of dispersing their effects or destroying their perspectives as is done here. Perhaps the greatest mistake in proportion is the mass and enormous height of the western towers—actually greater, according to the design, than the whole length of the building: a circumstance which, if they are ever completed, will give to the whole cathedral a look of shortness, which nothing can redeem. With such a ground-plan a true architect would have reduced their mass one-half, and their height by one-third at least.

Besides its great size, the cathedral of Cologne has the advantage of having been designed at exactly the best age; while, as before remarked, the cathedrals of Rheims and Paris were a little too early, St. Ouen's too late. The choir of Cologne, which we have seen to be of almost identical dimensions with that of Amiens, excels its French rival internally by its glazed triforium, the exquisite tracery of the windows, the general beauty of the details, and a slightly better proportion between the height of the aisles and clerestory. But this advantage is lost externally by the forest of exaggerated pinnacles which crowd round the upper part of the building, not only in singular discord with the plainness of the lower story, but hiding and confusing the perspective of the clerestory, in a manner as objectionable in a constructive point of view as it is to the eye of an artist. Decorated construction is, no doubt, the great secret of true architecture; but like other good things, this may be overdone. One-half of the abutting means here employed might have been dispensed with, and the other half disposed so simply as to do the work without the confusion produced here. When we turn to the interior to see what the vault is, which this mass of



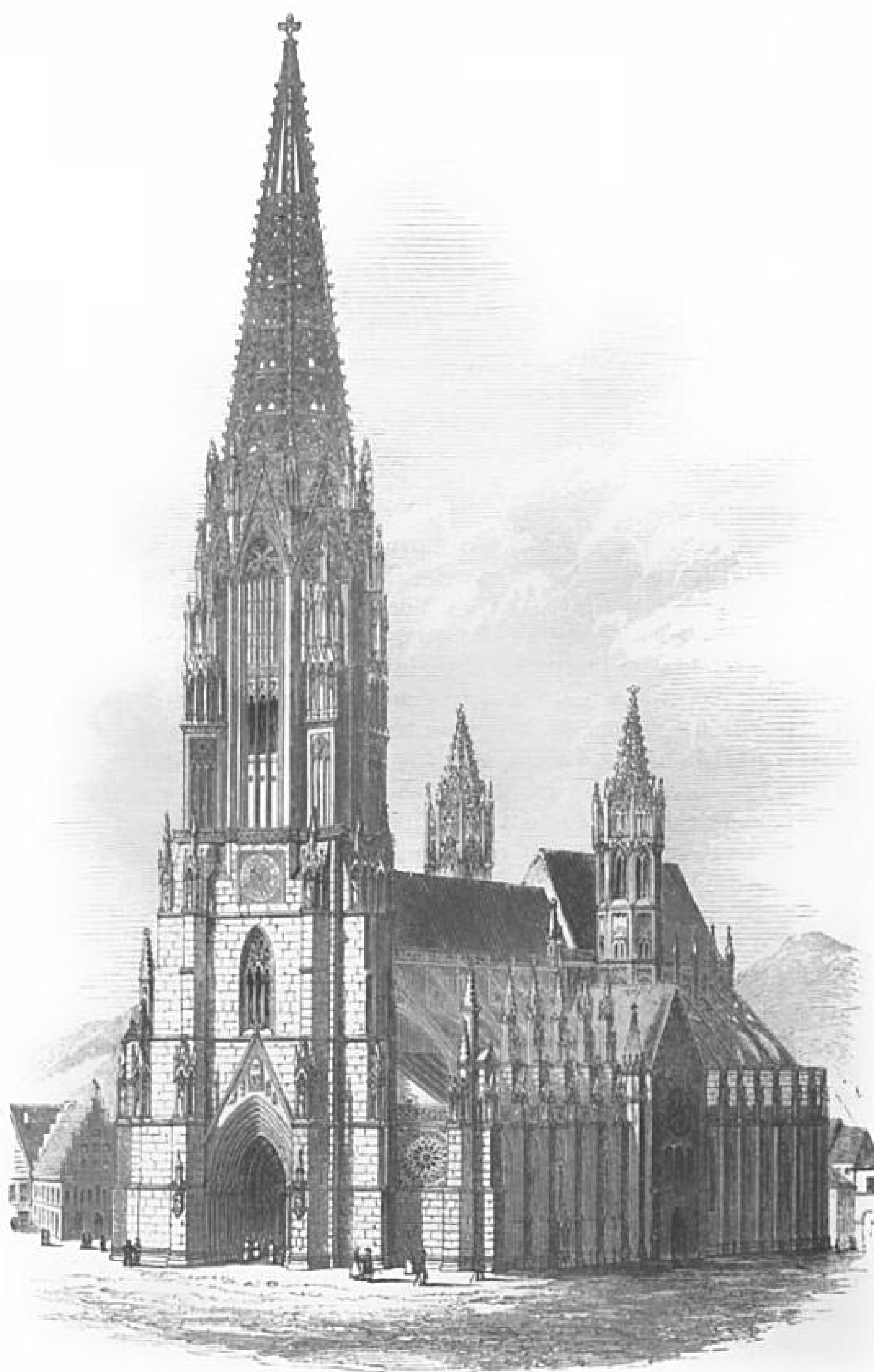
667. Intended Western Façade of Cathedral of Cologne. From Boisserée.

abutments is provided to support, we find it with all the defects of French vaulting—the ribs few and weak, the ridge undulating, the surfaces twisted, and the general effect poor and weak as compared with the gorgeous walls that support it. Very judicious painting might remedy this to some extent; but as it now stands the effect is most unpleasing.

The noblest as well as the most original part of the design of this cathedral is the western façade (woodcut No. 607). Had this been completed, it would rise to the height of 510 ft. This front, considered as an independent feature, without reference to its position, is a very grand conception. It equals in magnificence those designed for Strasburg and Louvain, and surpasses both in purity and elegance. It is very questionable if the open work of the spires is not carried to far too great an extent; and even the lower part is designed far too much by rule. M. Boisserée says, "the square and the triangle here reign supreme;" and this is certainly the case: every part is designed with the scale and the compasses, and with a mathematical precision perfectly astonishing; but we miss all the fanciful beauty of the more irregular French and English examples. The storied porches of Rheims, Chartres, and Wells comprise far more poetry within their limited dimensions than is spread over the whole surface of this gigantic frontispiece. Cologne is a noble conception of a mason. These were the works of artists in the highest sense of the word.

It is certainly to be regretted that there is no contemporary French example to compare with this, so that we might have been enabled to bring this to a clearer test than words can do. St. Ouen's comes nearest to it in age and style, but it is so very much smaller as hardly to admit of comparison; for though the length of the two churches is nearly identical, the one covers 81,000 square feet, the other only 47,000. Yet so judicious is the disposition of the smaller church, and so exquisite its proportions, that notwithstanding the late age of its nave, and the barbarism of its modern front, it is internally a more beautiful and almost as imposing a church as that of Cologne, and externally a far more pleasing study as a work of art. Had Marc d'Argent commenced his building at the same time as Cologne, and seen it completed, or left his design for it before 1322, even with its smaller dimensions it would have been by far the nobler work of art of the two. These, however, are vain speculations. We see in Cologne the finest specimen of masonry attempted in the middle ages; and notwithstanding its defects, we may hope to see in the completed design a really beautiful and noble building, worthy of its builders and of the religion to which it is dedicated.

Fortunately we are not left only to the drawings of the façade of Cologne to enable us to judge of what the effect of these open-work spires would be if completed; for at Friburg, in the Brisgau, there is a contemporary example, commenced in 1283, and finished in 1330. This fine spire is identical in style with the Cologne designs, and perhaps on the whole even better, certainly purer and simpler both in outline and detail, though it is not clear that the richer ornament of Cologne would not be more in accordance with this description of lace-work.



608. View of the Church at Friburg. From Moller's Denkmäler.

The total height of the spire at Friburg is 385 ft. from the ground, and is divided into three parts. The lower is a square, plain and simple in its details, with bold prominent buttresses, and containing a very handsome porch. The second is an octagon of elegant design, with four triangular pinnacles or spirelets at the angles, which break most happily the change of outline, and out of this rises, somewhat abruptly, the spire 155 ft. in height. An English architect would have placed 8 bolder pinnacles at its base; a French one would have used a gallery, or taken some means to prevent the cone from merely resting on the octagon. This junction between the two is poor and badly managed; but after all, the question is, whether or not the open spire is not a mistake, which even the beauty of detail found here cannot altogether redeem. It is not sufficient to say it is wrong, because a spire is a roof, and this is not. It is true a spire was a roof, and it still retains the place of one, and consequently should suggest the idea; but this is not absolutely indispensable; and if the tower were insufficient to support the apparent weight of a solid spire, or for any such reason, the deviation would be excusable, but such is not the case here, nor at Cologne.

Indeed, it seems that the whole is only another exemplification of the ruling idea of the German masons, an excessive love of "*tours de force*," and an inordinate desire to do clever things in stone, which soon led them into all the vagaries of their after Gothic; here it is comparatively inoffensive: still I feel convinced that if one-half the openings of the tracery were filled up, or only a central trefoil or quatrefoil left open in each division, the effect would be far more pleasing and satisfactory.

In the spires that flank the transepts, the open-work is wholly unobjectionable, owing to the smallness of the scale; but in the main and principal feature of the building the case is very different: dignity and majesty are there required; and this, the flimsiness, as it might almost be called, of the open work, goes far to destroy.

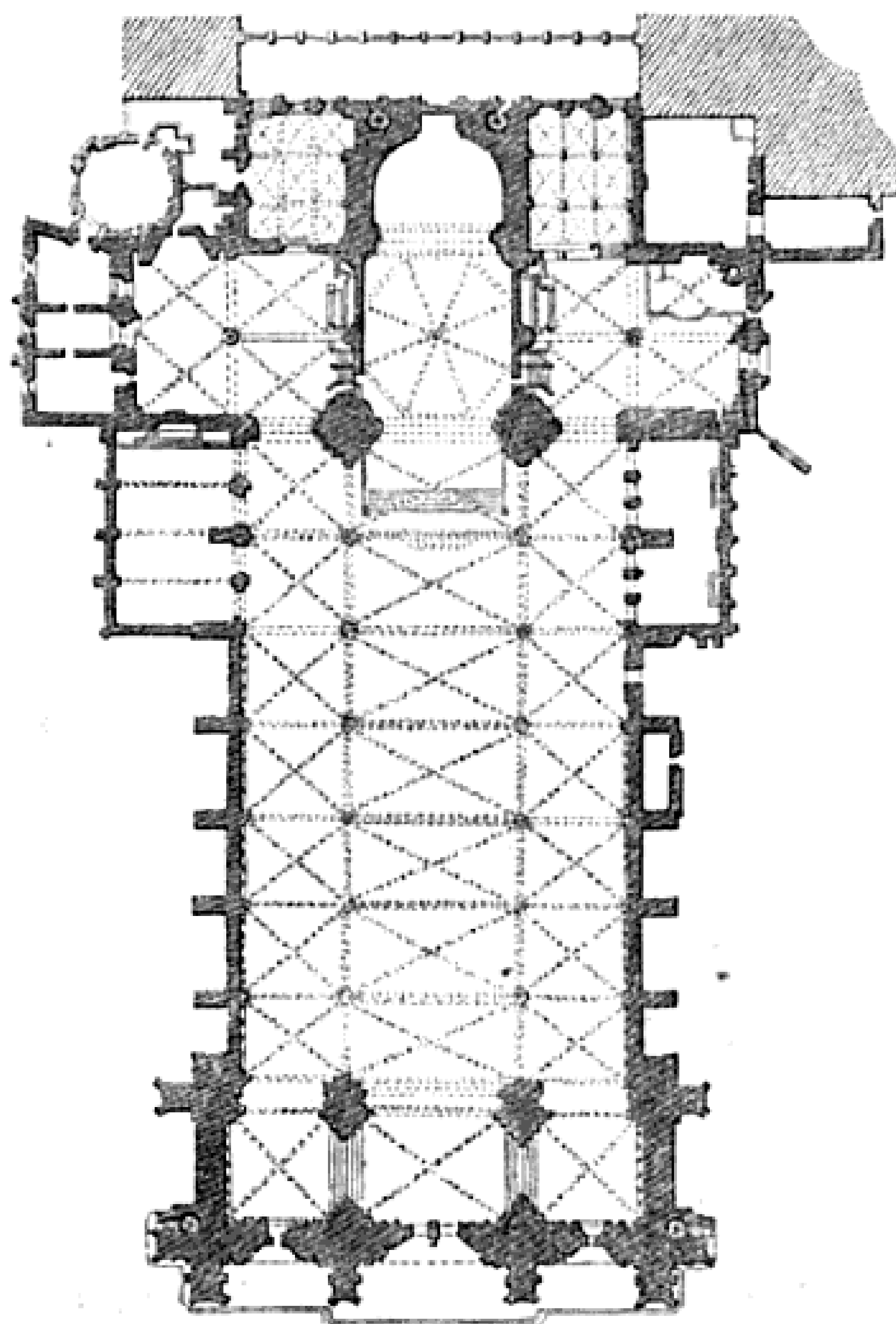
The nave of this church is a fair specimen of the German Gothic of the age, being contemporary with the spire, or perhaps a little earlier; but the want of the triforium internally, and the consequent heavy mass of plain wall over the pier-arches, give it a poor and weak appearance. The choir, a work of the 15th century, runs into all the extravagance of the later German style, its only merits being its size and lightness.

Of the other open-work spires of Germany, one of the most beautiful is that of Thann in Alsace. Here the octagonal part is so light, that anything more solid than the tracery that forms the spires would seem to crush it.

Besides these, there is a pleasing example at Esslingen; one attached to the cathedral at Meissen, in favour of which nothing can be said; and that adorning the two towers of the façade of the cathedral of Berne, which, because they are so small relatively to the towers they surmount, and are in fact mere ornaments, are pleasing and graceful terminations to the front.

Strasburg.

Next in rank to Cologne among German cathedrals is that at Strasburg. It is, however, so much smaller as hardly to admit of a fair comparison, covering, even with its subsidiary adjuncts, little more than 60,000 square feet. The whole of the eastern part of this church belongs to an older basilica, built in the 11th and 12th centuries, and is by no means remarkable either for its beauty or its size, or at least is so overpowered by the nave, which has been added to it, as to render its appearance somewhat insignificant. The nave and the western front are the glory and boast of Alsace, and possess in a remarkable degree all the beauties and defects of the German style.



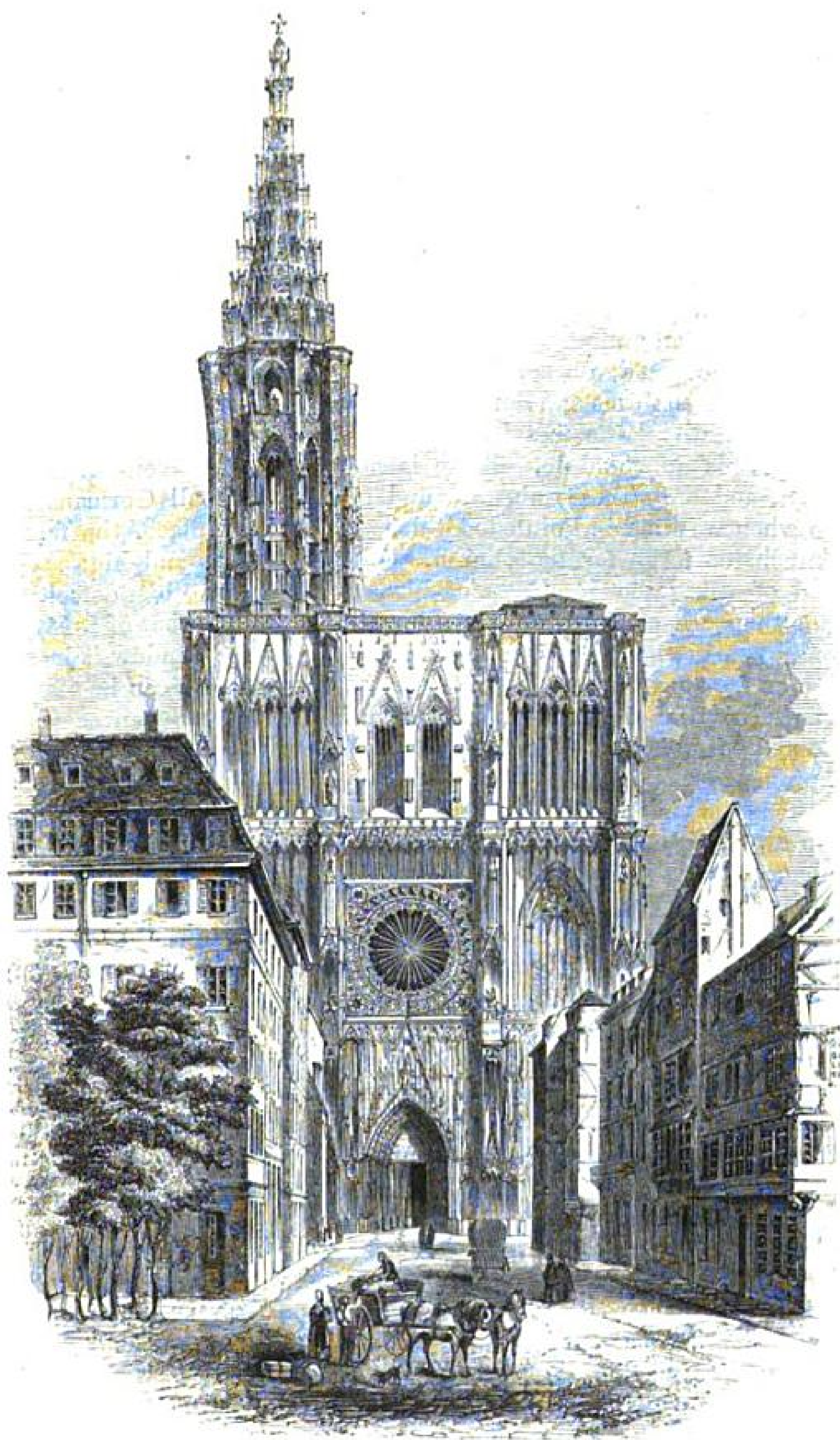
609. Plan of Strasburg Cathedral. Scale 100 ft. to 1 in.

It is not known when the nave was commenced, but probably in the early half of the 13th century, and it seems to have been finished about the year 1275, a date which, if authentic, is in itself quite sufficient to settle the controversy as to whether any part of Cologne is earlier, everything we see here being of an older style than anything in that church.

Be this as it may, the details are pure and beautiful, and the design of singular boldness. The central aisle is 53 ft. 2 in. wide from centre to centre of the piers, and the side-aisles 34 ft. wide, while the corresponding dimensions at Cologne are only 48 ft. and 27 respectively. Notwithstanding this, the vault at Strasburg is only 101 ft. in height against 145 at Cologne.

This comparative lowness of the nave at Strasburg is greatly in its favour. The length, which is only 250 ft., is made the most of, and the shortness of the cathedral is not perceived.

It does not appear that Erwin von Steinbach had anything to do with this part of the structure, beyond repairing the vault when



610. West Front of Cathedral at Strasburg.

damaged by fire in 1298, at which time he also introduced some new features of no great importance, but sufficient in some degree to confuse the chronology. What he really did, was to commence the western façade, of which he laid the foundation in 1277, and superintended the erection till his death, 41 years afterwards, when he was succeeded by his sons, who carried it up to the platform in 1365.

The Germans, however, wishing to find a name to place in their Walhalla, have tried to exalt Erwin into a genius of the highest order, ascribing to him not only the nave, but also the design of the spire as it now stands. If he had anything to do with the former, he must have been promoted at a singularly early age to the rank of master-mason, and been a most wonderfully old man at the time of his death; and if he designed the spire, he must have had a strangely prophetic spirit to foresee forms and details that were not invented till a century after his death! The fact is, Erwin did no more than every master-mason of his age could do. There is no novelty or invention in his design, and only those mistakes and errors which all Germans fell into when working in Pointed Gothic. In the first place, the façade is much too large for the church, which it crushes and hides. Instead of using the resources of his art to conceal this defect, he made the vault of the ante-chapel equal in height to that of Cologne. Consequently the centre of the great western rose window is just as high as the apex of the vault of the nave. It is true it can be seen in perspective from the floor of the church, but the arrangement seems as if it had been expressly intended to make the church both low and out of proportion.

The spiral staircases at the angles of the spire are marvels of workmanship, and the whole is well calculated to excite the wonder of the vulgar, though it must be condemned by the man of taste as very inferior in every respect to the purer designs of an earlier age.

It is not known whether the original design comprised two towers, like those of the great French cathedrals, or was intended to terminate with the flat screen façade. Probably the latter was the case, as mass and not proportion seems to have been this architect's idea of magnificence.

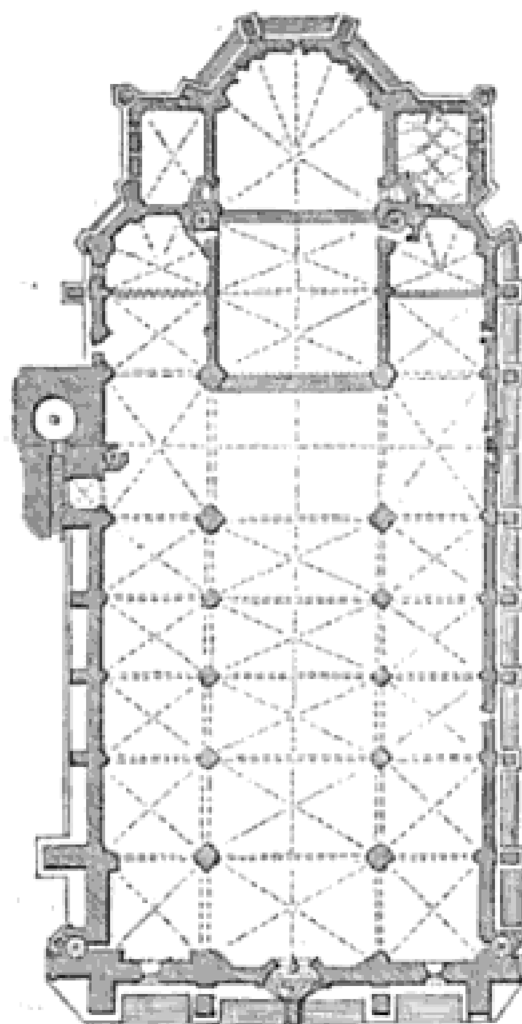
The spire that now crowns this front, rising to a height of 468 ft. from the ground, was not finished till 1439, and betrays all the faults of its age. The octagonal part is tall and weak in outline, the spire ungraceful in form, and covered with an unmeaning and constructively useless system of tracery.

Besides the fault of proportion for which the design of Erwin is clearly blameable, all his work betrays the want of artistic feeling which is characteristic of the German mason. Every detail of the lower part of the front is wire-drawn and attenuated. The defect of putting a second line of unsymmetrical tracery in front of windows, the first trace of which we remarked upon in speaking of Gelnhausen, is here carried to a painful extent. The long stone bars which protect and hide the windows are admirable specimens of masonry, but they are no more beauties than those which protect our kitchen windows in

modern times. The spreading the tracery of the windows over the neighbouring walls, so as to make it look large and uniform, is another solecism found both here and at Cologne, utterly unworthy of the art, and not found in, I believe, a single instance in France and England, where the style was so much better understood than here.

Altogether the cathedral at Strasburg is a building imposing from its mass, and fascinating from its richness; but there is no building in either France or England where such great advantages have been thrown away in so reckless a manner and by so unintelligent a hand.

The cathedral at Ratisbon is a far more satisfactory specimen of German art than that of Strasburg. It is a small building, only 272 ft. in length, and 114 in breadth internally, and covering about 32,000 ft. It was commenced in the year 1275; the works were continued for more than two centuries, and at last abandoned before the completion of the church.



611. Plan of Ratisbon Cathedral. Scale 100 ft. to 1 in.

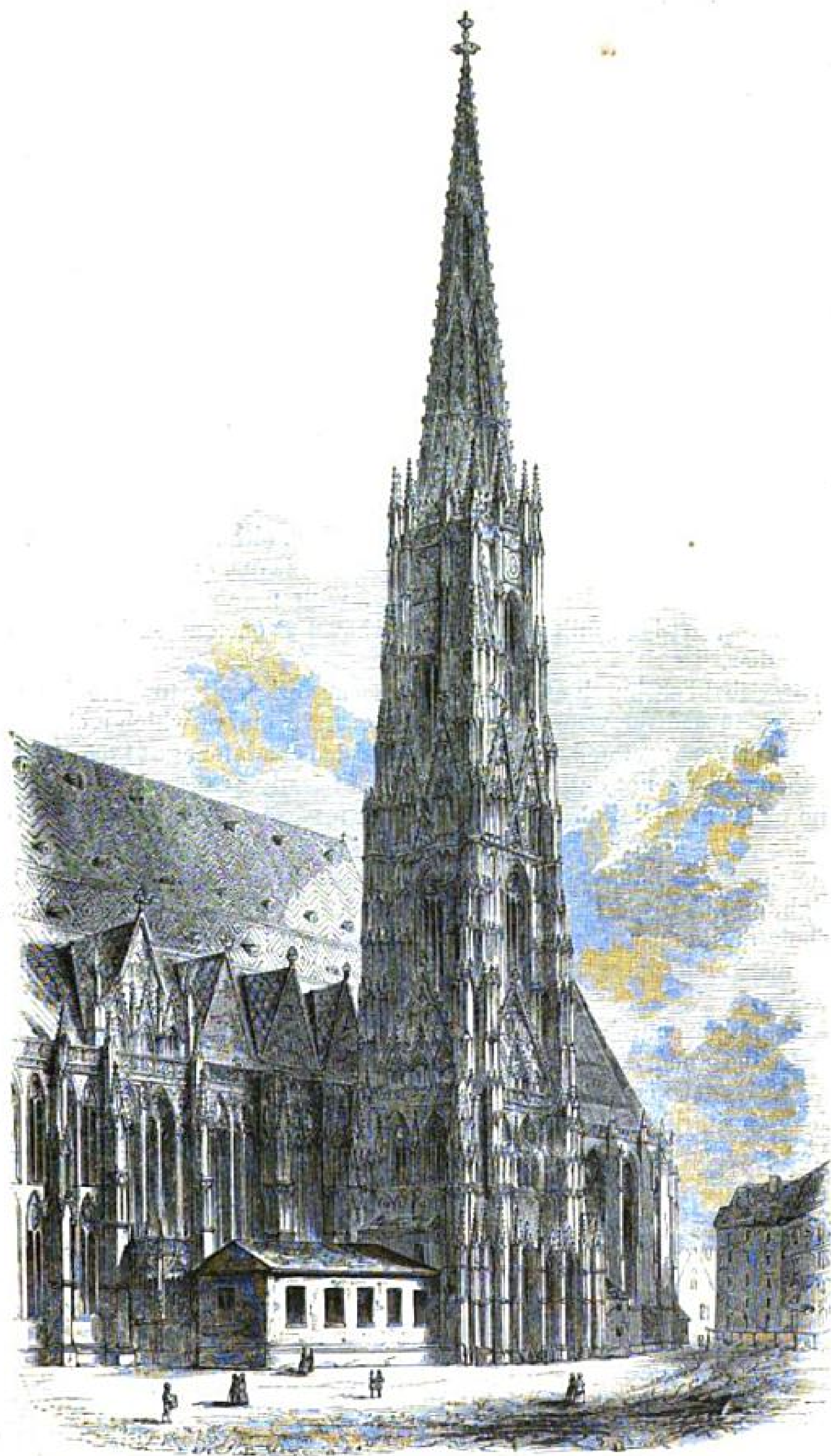
As will be seen from the plan (woodcut No. 611), it is much more German than French in its arrangements, having three apses instead of a chevet. The side aisles are wide in proportion to the central one, the transept subdued, and altogether it is more like the old round Gothic basilica than the French church. It has two stories of windows in the apse, as at Marburg. There the arrangement is unmeaning and offensive; here the nave has side aisles and a clerestory: thus the upper windows of the apse are a continuation of the clerestory windows of the nave, and the effect is not unpleasing. The details of this church are singularly pleasing and elegant throughout, and produce on the whole a harmony not commonly met with in German churches of this age and style.

If size were any real test of beauty, the cathedral at Ulm ought to be one of the finest in Germany, being just twice as large as that at Ratisbon, covering 63,800 ft. So far also as constructive merit is concerned, it is perhaps the best; for though I have no plan I can quite rely upon, I believe that not more than one-fifteenth of the area is occupied by the supports; nor is this church surpassed by many in sharp and clever mechanical execution of the details. With all this it would be difficult to find a colder and more unimpressive design than is here carried out: both internally and externally, it is the work of a very clever mason, but a singularly bad artist. The freemasons had, when it was founded (1377), got possession of the art in Germany; and here they carried their system to its acmé, and with a result which

every one with the smallest appreciation of art can perceive at once. It is said that in the original design the outer range of pillars, dividing the side aisle into two, was to have been omitted, which would have made it even worse than it is. Its one western tower, had it been completed, would have been more beautiful than that at Strasburg; and besides being actually higher (483 ft., according to the still-preserved design), would have appeared taller from standing alone. Its form, too, is more pleasing; and though its details are far more suited for execution in cast-iron than in stone, it would have rivalled, perhaps surpassed, those at Antwerp or Mechlin. It was, however, carried to the height of only 220 ft., when, either from the want of funds or the failure of the foundation, the work was abandoned.

St. Stephen's of Vienna ranks fourth or fifth among the great churches of Germany, both for size and richness of decoration. Its length, internally, is 337 ft., its width 115, and it covers about 52,000 square ft. As far, however, as the body of the church is concerned, it would be difficult to find anything in all Europe worse designed or more inappropriately ornamented. Internally the three aisles are nearly of the same width and height. There is no clerestory, but one enormous wooden roof, 108 ft. in height above the walls, covers, like an extinguisher, the whole body of the church. The central aisle is only 92 ft. high internally, and covered with a vault of most unpleasing form. The great glory of this church consists in its two spires, one of which is finished, the other only carried to about one-third of its intended height. Their position is unfortunate, as they are placed where the transepts should be, so that they neither form a façade nor dignify the sanctuary. In itself, however, the finished spire is the richest, and, excepting that at Friburg, perhaps the most beautiful of all those in Germany. Its total height, exclusive of the eagle, is 441 ft., rising from a base of about 64 ft., and gradually sloping from the ground to the summit, where it forms a cone of the unprecedentedly small angle of little more than 9 degrees. The transition from the square base to an octagonal cone is so gradual and so concealed by ornament, that it is difficult to say where the tower ends and the spire begins. This gives a confusion and weakness to the design by no means pleasing. Indeed the whole may be taken as an exemplification of all the German principles of design carried to excess, rather than as a perfect example of what such an object should be. It deserves to be remarked that there is no open work in the spire, though, from its own tenuity and the richness of the tower, there is no example where it would have been less objectionable.

In adopting the pointed-arched style, the Germans generally abandoned their favourite double-apse arrangement; and though they seldom adopted the whole of the chevet, preferring their own simple apse to it, it seems to have been only, or at least generally, where an old Round Gothic double-apse church existed previously, that this arrangement was continued after the commencement of the 13th century. Naumberg, the nave of which was commenced about the year 1200, is an instance of this. This was no doubt inserted between two older



612. View of the Spire of St. Stephen's, Vienna. From Chiesi Principali d' Europa.

apses, both of which were rebuilt at a later age, forming two very beautiful and extensive choirs. The whole makes a very pleasing and interesting church, though there certainly is an architectural incongruity in entering by the side, and the double-apse arrangement is unfamiliar and nearly unintelligible to us at the present time.

A still better example is the cathedral at Bamberg, which, judging from its date, ought to be in the complete pointed style. Though its east end dates from 1220, and the west 1257, it is still so completely transitional, and the pointed form so timidly used, that in France it would certainly be said that there was a mistake of at least a century in these dates. It is nevertheless a very fine church; and its four elegant towers flanking the two apses give it a local and at the same time a dignified character which we often miss in the imitations of French churches, too common at this age. At Naumberg unfortunately only three towers exist, the fourth never having been erected. This considerably mars the effect, when compared with the more complete edifice at Bamberg.

Augsburg is another example of this class, although of a good age, the rebuilding having commenced 1366. It is one of the ugliest and worst-designed buildings in Germany, with nothing but its size to redeem it. It is peculiar in having a chevet at one end and an apse at the other.

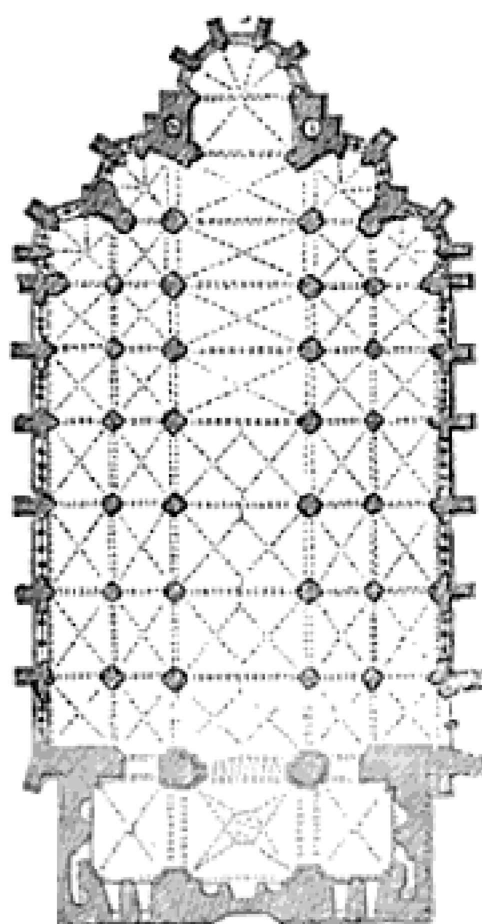
St. Sebald's Church at Nuremberg seems originally to have been a chevet turned the wrong way, to the eastern end of which a choir of somewhat exaggerated dimensions was added at a later age (1309–1377). This choir was not only placed unsymmetrically as regards the axis of the older part, but also as regards its own parts. It is however lofty and airy, and being lighted by a single row of tall windows, avoids the defect of the two-storied arrangement. These windows are 50 ft. high, and barely 8 ft. in width, which is far too narrow in proportion. Their mullions are nearly 40 ft. in height; and though triumphs of German masonic skill, are most unpleasing features of architectural design.

The other church at Nuremberg, that of St. Lawrence, is a finer and better designed church than St. Sebald's, and about one-third larger. It was commenced in 1275, and finished after 202 years' labour, and shows in itself all the beauties and defects of the German style, where they adopted pointed architecture, and used it according to their own feelings and tastes, instead of importing a French cathedral bodily, as was done at Cologne. The three aisles of the choir, as at St. Sebald's, are of one height, but the windows of two stories, and those of the polygonal part, of very tolerable form and tracery. In the nave, the side aisles are subordinated to the central part; and it must be confessed that the expansion of the chevet towards the east is judicious, though unfortunately here carried to exaggeration.

Externally the western front, though on a small scale, its two towers rising to the height of 250 ft. only, is as pleasing and pure a specimen of its class of design as Germany can afford. The flanks want buttresses and pinnacles, which, though not required in the round Gothic

style, can be but ill dispensed with in pointed architecture. In this instance they are particularly needed, as the building is overwhelmed, as is too often the case in Germany, by an enormously high ugly roof.

The principles of the French schools of art seem to have prevailed to a much greater extent in the north of Germany, and we have in consequence several churches of more pleasing design than those last mentioned. Among these is the cathedral at Halberstadt, a simple but beautiful church, not remarkable for any very striking peculiarities, but extremely satisfactory in general effect. The great church, too, at Xanten may be quoted as another very favourable specimen, though far more essentially German in its arrangement. The western front is older than the rest, and is German, wholly without French influence. It has no central entrance, but two bold massive towers. The church behind these is of the latter part of the 13th and the 14th centuries. It is generally good in detail and proportion, but arranged, as seen in the plan, in a manner wholly different from the French method, though common in all parts of Germany. The polygonal form is retained both for the apse and for the chapels, but without adopting the chevet with its surrounding aisle, nor the absolute seclusion of the choir as a priestly island round which the laity might circulate, but within whose sacred precincts they were not permitted to enter. It is observable that in those districts where chevets are most frequent, generally speaking, the Catholic religion has had the firmest hold. On the other hand, where the people had declined to adopt that arrangement, it was a sign that they were ripe for the Reformation, which accordingly they embraced as soon as the standard of rebellion was raised.



613. Plan of Church at Xanten. Scale 100 ft. to 1 in.

In the south of Germany we have already had occasion to remark on the tendency to raise the side aisles to the same height as the central one, which eventually became the rule in the great brick churches of Munich and other parts of Bavaria, the piers or pillars becoming mere posts supporting what was practically a horizontal roof. In the north the tendency seems to have been the other way—to exaggerate the clerestory at the expense of the aisles. A notable example of this is found in the nave at Magdeburg, where the side aisles are practically little more than one-third of the whole height of the church; and there being no triforium, the clerestory windows rest apparently on the vault of the side aisle. This has now no doubt a disagreeable effect, but when filled with painted glass the case must have been different, and the effect of this immense screen of brilliant colours must have been most beautiful.

A better example of this arrangement is found in the cathedral at

Metz, where, from its proximity to France, the details are better, and the whole style better understood. Externally, it must be confessed, the immense height of the clerestory gives to the church a wire-drawn appearance, very destructive of architectural beauty; but internally, partly from the effect of perspective and partly from the brilliancy of such glass as remains, criticism is disarmed. The result, however contrary to the rules of art, is most fascinating; and at all events it is an error in a far more pleasing direction than that of the southern architects.

Among the larger fragments of churches found in Germany, two in Bohemia deserve particular attention—one, St. Veit at Prague, projected in 1346, in imitation of the cathedral at Cologne, and intended almost to rival it in extent. It remains, however, like its great prototype, a choir with an unfinished transept, but less fortunate in being without any apparent chance of ever being completed. As might be expected from its age, it is less pure in style, but still a very noble design. The other, the church at Kuttenberg, commenced in 1330, is simpler in outline and better in proportion, though not quite so large. Had it been completed, it would have been surpassed by few churches in Germany. It too, however, is only a choir—a mere fragment of a noble but too ambitious design.

These may perhaps be considered the great and typical examples of the pointed style as applied to church architecture in Germany; but besides these there are numerous examples scattered all over the country, many of which, as less directly under French influence, display an originality of design, and sometimes a beauty, not to be found in the larger examples.

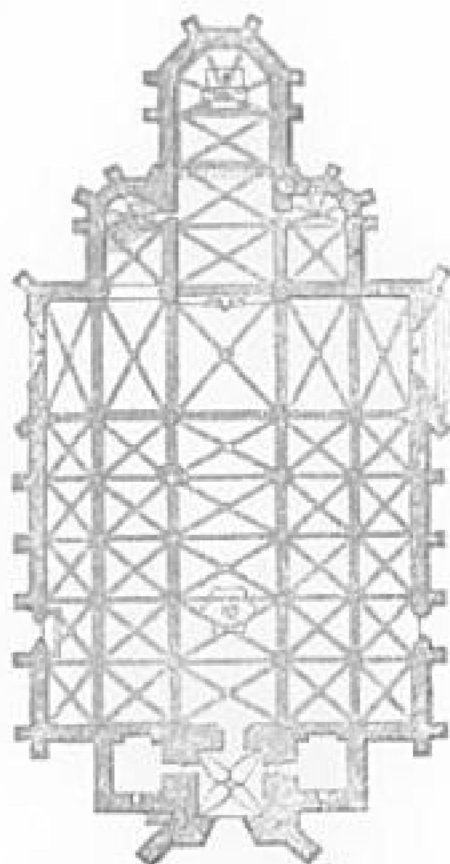
Among these is the church at Limburg on the Lahn. This building belongs to the early part of the 13th century, and exhibits the transitional style in its greatest purity, and with less admixture of foreign taste than is to be found in almost any subsequent examples. Though measuring only about 180 ft. by 75, it has, from its crown of towers and general design, a more imposing appearance externally than many buildings of far larger dimensions. The interior is also singularly impressive.

The church of St. Emeran at Ratisbon, a square building of about the same age and style, is chiefly remarkable for the extensive series of galleries which surround the whole of the interior, being in fact the application of the system of double chapels (see p. 586) to a parish church; not that vaulted galleries are at all rare in Germany, but generally speaking they are insertions; here they seem part of the original design.

At Schulporta in Saxony there is a very elegant church of the best age, and both in design and detail very different from anything else in Germany. Its immense relative length gives it a perspective rarely found in this country, where squareness is a much more common characteristic.

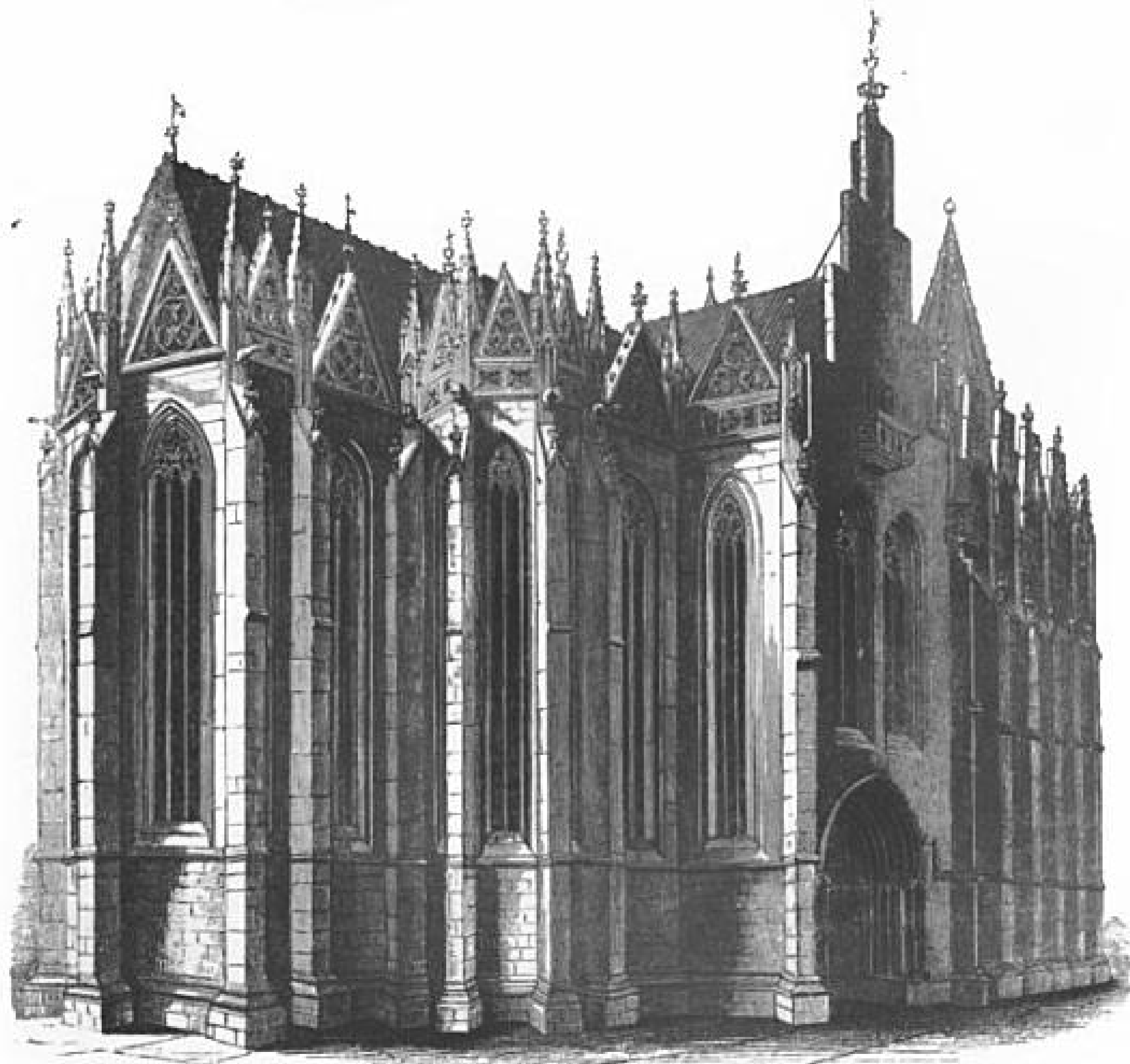
At Oppenheim is a church the choir of which is a simple and pleasing German apse with elongated windows. The nave, four bays

in length, is an elaborate specimen of German ornamentation in its utmost extravagance, and, considering its age, in singularly bad taste, at least the lower part. The clerestory is unobjectionable, but the tracery of the windows and walls of the side aisles shows how ingeniously it was possible to misapply even the beautiful details of the early part of the 14th century. At Werner's Chapel, Bacharach, on the Rhine, this is avoided, and, as far as can be judged from the fragment that remains, it must, if it ever was completed, have been one of the best specimens of German art in that part of the country. The nave of the cathedral at Meissen, though marked by many of the faults of German design, is still a beautiful example of well-understood detail.



614. Maria Kirche at Muhlhausen. Scale 100 ft. to 1 in.

As a purely German design nothing can surpass the Maria Kirche at Muhlhausen (woodcut No. 614). The nave is nearly square, 87 ft. and 105, and divided into 5 aisles by 4 rows of pillars supporting the vaults, all at the same level. To the



615. View of Maria Kirche at Mühlhausen. From Puttrich, Denkmäler.

west is a triple frontispiece, and to the east (woodcut No. 615) the three apses, which form so favourite an arrangement with the Germans. Externally its attenuation is painful to one accustomed to the soberer work of French architects; but this fault is not here carried to anything like the excess found in other churches. Internally the effect is certainly pleasing, and altogether there are perhaps few better specimens of purely German design in pointed architecture. The church of St. Blasius, in the same town, is far from being so good an example of the style.



616. St. Severus Church at Erfurth. From Puttrich, Denkmäler.

The cathedral at Erfurth is a highly ornamented building, but, though possessing beautiful details in parts, yet shows the slenderness of construction which is so frequent a fault in German Gothic buildings. The church of St. Severus in the same town resembles that at Muhlhausen, but possesses so characteristic a group of three spires[1] over what we would consider the transept — or just in front of the apse — that it is illustrated (woodcut No. 616). It certainly looks like a direct lineal descendant from the old Roman basilican apse grown into Gothic tallness. Though common in Germany, placed either here or at the west front, I do not know

[1] The façade designed for the cathedral at Louvain (mentioned at page 725) was identical with this group of spires in arrangement, though on a much larger scale, and infinitely richer in ornament

of any single example of such an arrangement either in France or England.

To the same class of square churches with slightly projecting chancels belongs the Frauen Kirche at Nuremberg, one of the most ornate of its kind, and possessing also in its triangularly formed porch another peculiarity found only in Germany. The principal entrances to the cathedrals of Ratisbon and Erfurth are of this description—the latter being the richest and boldest porch of the kind.

One of the best known examples of the daring degree of attenuation to which the Germans delighted to carry their works is the choir (woodcut No. 433) added in 1353 and 1413 to the old circular church of Charlemagne at Aix-la-Chapelle. As we now see it, the effect is certainly unpleasing; but if these tall windows were filled with painted glass, and the walls and vault coloured also, the effect would be widely different. Perhaps it might then be even called beautiful; but with scarcely a single exception all those churches are now deprived of this most indispensable part of their architecture, and, instead of being the principal part of the design, the windows are now only long slits in the masonry, giving an appearance of weakness without adding to the beauty or richness of the ornament.

The same remarks apply to the Nicholai Kirche at Zerbst, and the Petri Kirche at Gorlitz, both splendid late specimens of this exaggerated class of German art. By colour they might be restored, but as seen now in the full glare of the cold daylight they want almost every requisite of true art, and neither their size nor their constructive skill suffices to redeem them from the reproach.

Spires.

Except the open-work spires above described, and the others mentioned in the preceding pages, those of Germany are not, as a general rule, remarkable either for their beauty or their elevation. There is one at Landshut, however, that is an exception to this remark, being 425 ft. in height, principally constructed of brick, of very graceful outline, though composed of too many parts and divided into too many stories to possess all the requisites of a good spire. That attached to the cathedral at Frankfort has also been much admired, but though some of its details are certainly good, it by no means merits the praise that has been bestowed upon it.

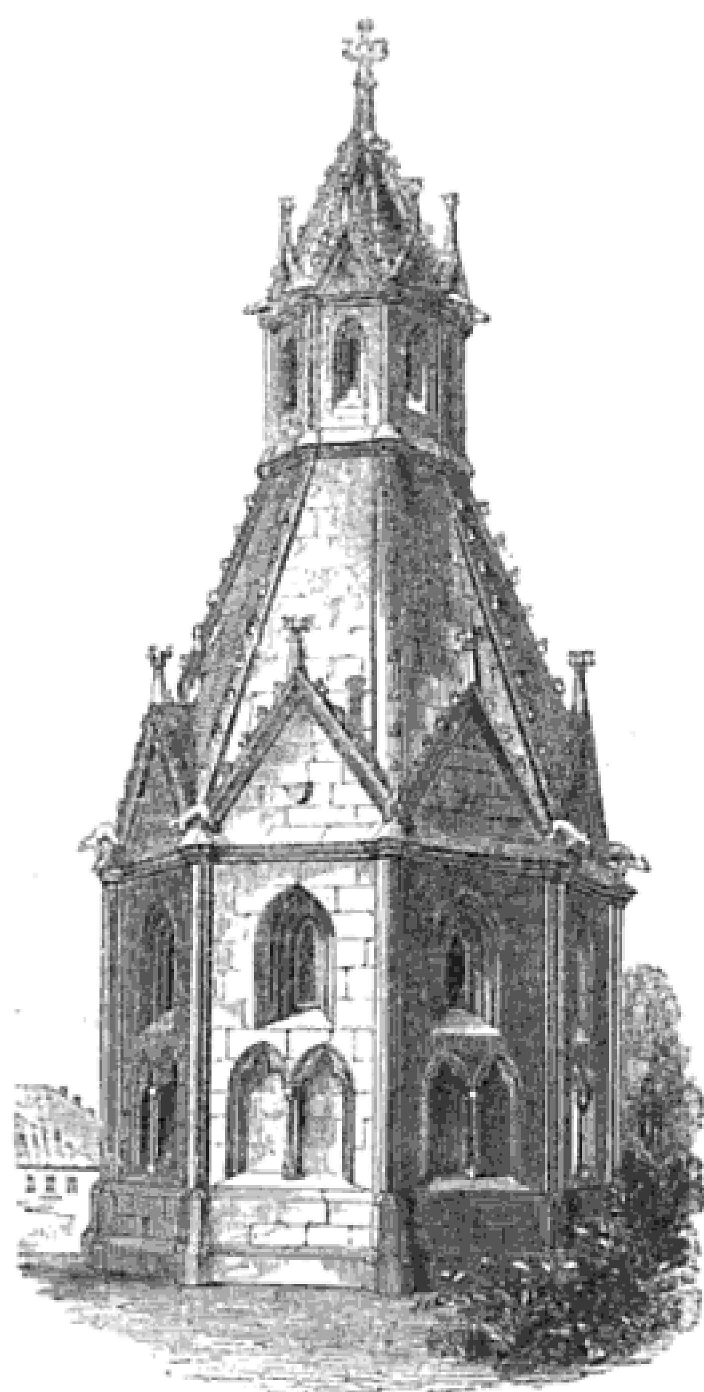
CHAPTER II.

CONTENTS.

Circular Churches — Church Furniture — Civil Architecture.

Circular Churches.

In adopting the pointed style, the Germans almost wholly abandoned their old favourite circular form; the Liebfrauen church at Trèves, quoted above, p. 570, being almost the only really important example of a church in this style approaching to a rotunda. Chapter-houses are as rare in Germany as in France, and those that are found are not generally circular in either country. There is a baptistery attached to the cathedral at Meissen, and one or two other insignificant examples elsewhere; but the most pleasing object of this class is the Anna chapel, attached to the principal church at Heiligenstadt. It is said that it always was dedicated to the sainted mother of the Virgin, but it would require more than tradition to prove that it was not originally designed as a baptistery or a tomb-house. Be this as it may, it is one of the most pleasing specimens of its class anywhere to be found, and so elegant as to make us regret the rarity of such structures.



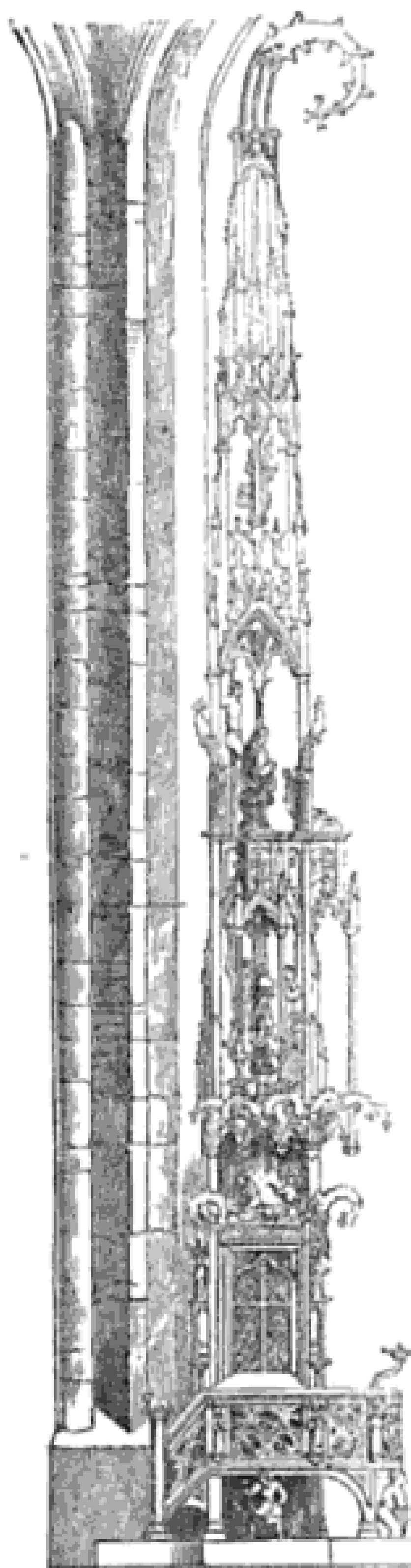
617. Anna Chapel at Heiligenstadt. From Puttrich, Denkmäler.

Church Furniture.

The churches of Germany are not generally rich in architectural furniture. Few rood-lofts are found spanning from pillar to pillar of the choir like that at the Madelaine of Troyes (woodcut No. 584); and though some of the screens that separate the choirs of the churches are rich, they are seldom of good design. The two at Naumberg are perhaps as good as any of their class in Germany. Generally they

were used as the *lectorium*—virtually the pulpit—of the churches. In most instances, however, the detached pulpit in the nave was substituted for these, and there are numerous examples of richly-carved pulpits, but none of beautiful design. Generally they are overloaded with ornament, and many of them disfigured with quirks and quibbles, and all the vagaries of later German art.

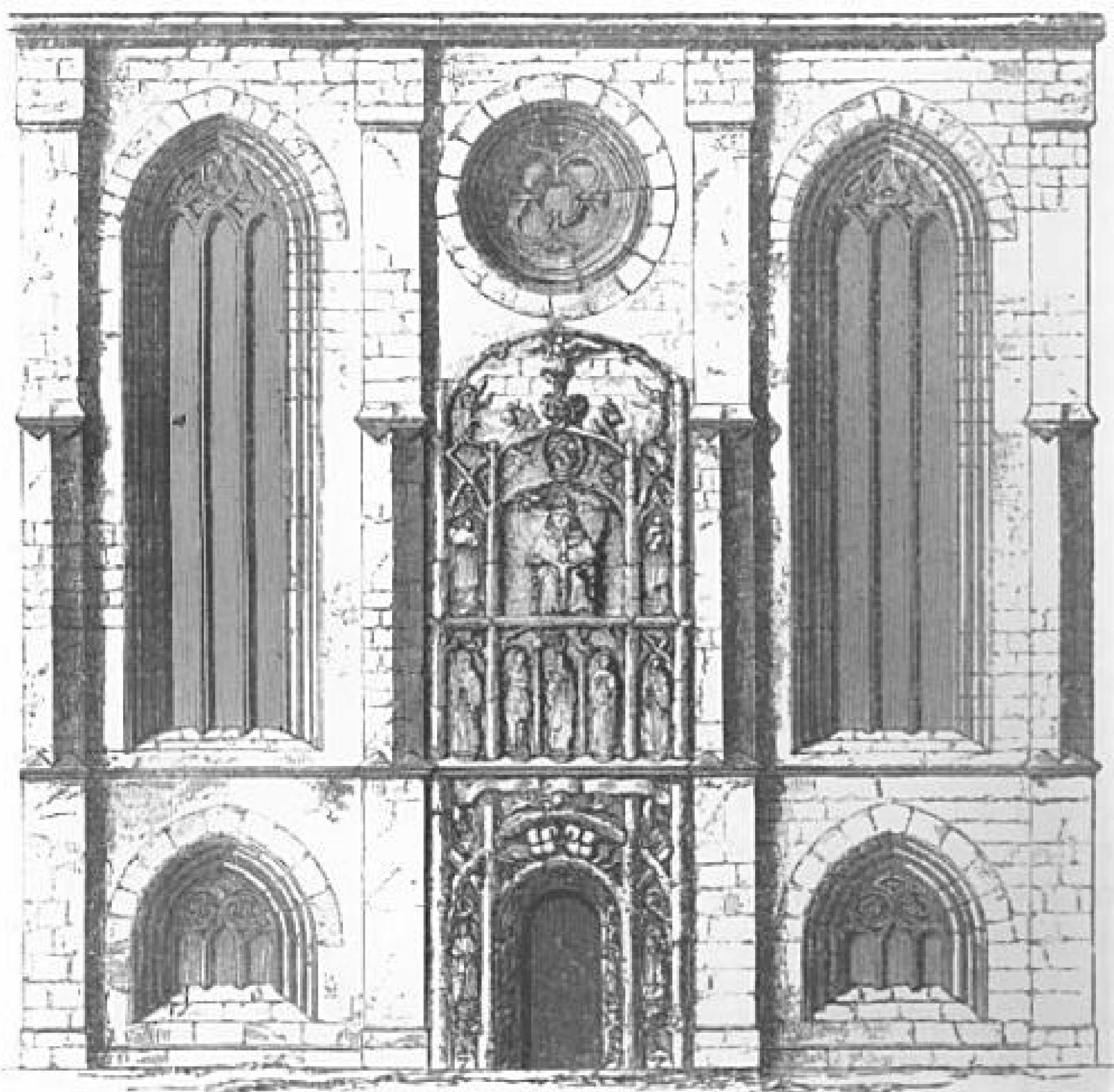
The fonts are seldom good or deserving of attention, and the original altars have almost all been removed, either from having fallen to decay, or to make way for some more favourite arrangement of modern times.


618. Sacraments Haüslein at Nuremberg. From Chapuy.

The "Sacraments Hauslein" (the receptacle for the sacred elements of the communion) is a peculiar article of furniture frequently found in German churches, and in some of those of Belgium, though very rare in France and unknown in England, but on which the German artists seem to have lavished more pains than on almost any other article of church decoration. Those in St. Lawrence's church at Nuremberg and at Ulm are perhaps the most extraordinary pieces of elaborate architecture ever executed in stone, and have always been looked on by the Germans as chefs-d'œuvre of art. Had they been able, they would have delighted in introducing the same extravagances into external art: fortunately the elements forced them to confine them to their interiors. Nothing, however, can show more clearly what was the tendency of their art, and to what they aspired, than these singular erections, which, notwithstanding their absurdity, considering their materials, must excite our wonder, like the concentric balls of the Chinese. To some extent also they claim our admiration for the lightness and the elegance of their structure. Simplicity is not the characteristic of the German mind. A difficulty conquered is what it glories in, and patient toil is not a means only, but an end, and its expression often excites in Germany more admiration than either loftier or purer art.

It can scarcely be doubted but that much of the extravagance which we find in later German architecture arose from the reaction of the glass-painters on the builders. When first painted glass was extensively introduced, the figures were grouped or separated by architectural details, such as niches or canopies, copied literally from the stone ornaments of the building itself. Before long, however, the painter, in Germany at least, spurned at being tied down to copy such

mechanical and constructive exigencies; he attenuated his columns, bent and twisted his pinnacles, drew out his canopies, and soon invented for himself an architecture bearing the same relation to the stone Gothic around him that the architecture shown on the paintings of Pompeii bears to the temples and buildings from which it is derived. In Germany, painters and builders alike were striving after lightness, but in this the painter was enabled by his material easily to outstrip the mason. The essentially stone character of architecture was soon lost sight of. With the painter the finials, the crockets, and the foliage of the capitals again became copies of leaves instead of the conventional representations of nature which they are and must be in all true art. Like Sir James Hall in modern times, the speculative mind in Germany was not long, when advanced thus far, in suggesting a vegetable theory for the whole art. All these steps are easily to be traced in the sequence of German painted glass still preserved to us. The more extravagant and intricate the design, the more it was admired by the Germans. It was therefore only natural that the masons should strive after the same standard, and should try to realise in stone the ideas which the painters had so successfully started on the plain surface of the glass. The difficulty of the task was an incentive. Almost all the absurdities of the later styles may be traced more or less to this source, and were it worth while, or were



619. Doorway of Church at Chemnitz.

this the place, it would be easy to trace the gradual decay of true art from this cause. One example must suffice, taken from a church at Chemnitz (woodcut No. 619), where what was usual, perhaps admissible, in glass, is represented on stone as literally as is conceivable. When art came to this, its revival was impossible among a people with whom such absurdities could be admired, as their frequency proves them to have been. What a fall does all this show in that people who invented the old Round-Gothic style of the Rhenish and Lombard churches, which still excite our admiration as much from the simple majesty of their details as from the imposing grandeur of the mass!

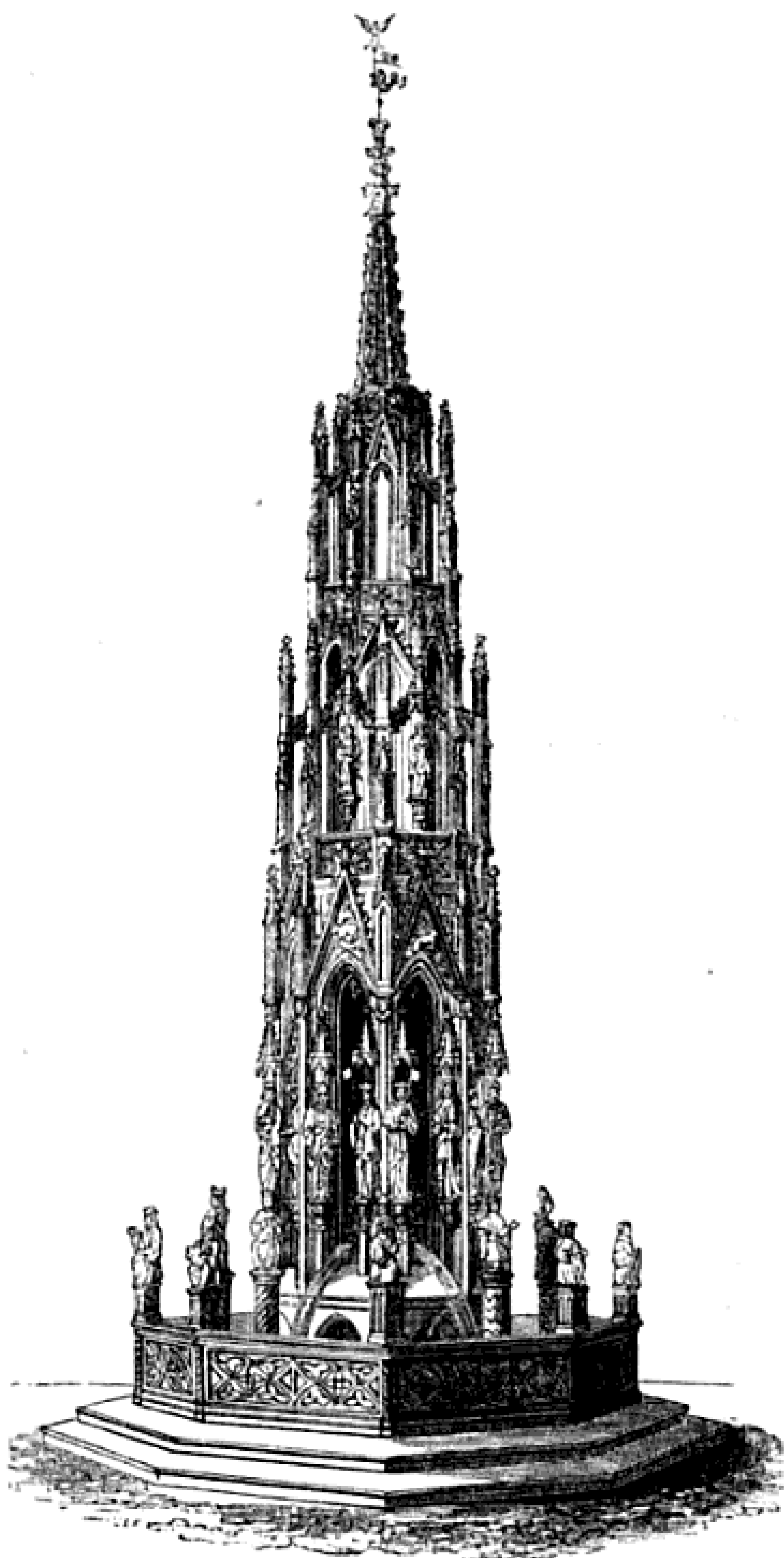
CIVIL ARCHITECTURE.

If the Germans failed in adapting the pointed style of architecture to the simple forms and purposes of ecclesiastical buildings, they were still less likely to be successful when dealing with the more complicated arrangements of civil buildings. It seldom is difficult to impart a certain amount of architectural character and magnificence to a single hall, especially when the dimensions are considerable, the materials good, and a certain amount of decoration admitted; but in grouping together as a whole a number of small apartments, to be applied to various uses, it requires great judgment to enable every part to express its own purpose, and good taste to prevent the whole degenerating merely into a collection of disjointed fragments. These qualities the Germans of that age did not possess, besides which there seems to have been singularly little demand for civil edifices in the 13th and 14th centuries. It is probable that the free cities were not organised to the same extent as in Belgium, or had not the same amount of manufacturing industry that gave rise to the erection of the great halls in that country, for with the exception of the Kauf Haus at Mayence, no example has come down to our days that can be said to be remarkable for architectural design. Even this no longer exists, having been pulled down in 1812. It was but a small building, 135 ft. in length by 92 in width at one end, and 75 at the other. It was built in the best time of German pointed architecture, and was a pleasing specimen of its class. At Cologne there is a sort of Guildhall, the Gurzenich, and a tower-like fragment of a town-hall, both built in the best age of architecture; and in some of the other Rhenish towns there are fragments of art more or less beautiful according to the age of their details, but none that will bear comparison with the Belgian edifices of the same class.

The only really important palace of this style is the Schloss Marienburg in Prussia, which, though of the best age (1309), and extensively and richly ornamented, is one of the worst specimens of this class of buildings, and as bad a piece of architecture as Germany possesses. Some of the castles in which the feudal aristocracy of the day resided are certainly fine and picturesque buildings, but seldom remarkable for architectural beauty either of design or detail. The same remarks apply to the domestic residences. Many of the old high gabled houses in the streets are most elaborately ornamented, and pro-

duce picturesque combinations in themselves and with one another; but as works of art few have any claim to notice, and neither in form nor detail are they worthy of admiration.

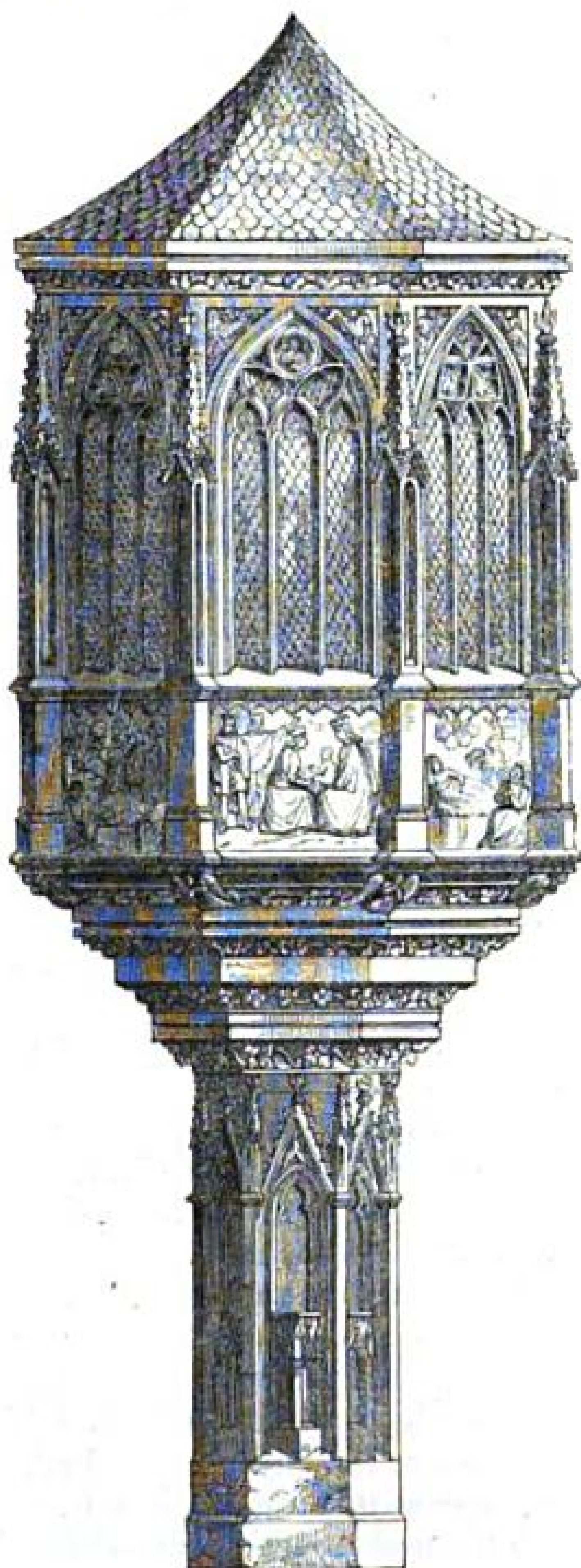
Among more miscellaneous monuments may be named the weigh tower at Andernach, with its immense crane, showing how any object may be made architectural if designed with taste. The Schöne Brunnen, or "Beautiful Fountains," in the market-place at Nuremberg, is one of the most unexceptionable pieces of German design in existence. It much resembles the contemporary crosses erected by our Edward I. to the memory of his beloved queen Eleanor, but it is larger and taller, the sculpture better, and better disposed, and the whole design perhaps unrivalled among monuments of its class. The lightness of the upper part and the breadth of the basin at its base give an appearance of stability which greatly contributes to its effect.



620. Schöne Brunnen at Nuremberg. From Chapuy.

In the same town of Nuremberg are several houses presenting very elegant specimens of art in their details, though few that now at least afford examples of complete designs worthy of attention. The two parsonages or residences attached to the churches of St. Sebald and St. Laurence are among the best. The bay window (woodcut No. 621) from the façade of the former is as pleasing a feature as is to be found of its class in any part of Germany.

In all countries the specimens of domestic art are, from obvious causes, more liable to alteration and destruction than works of a more monumental class. Making every allowance for this, still Germany seems more deficient than the neighbouring countries in domestic architecture in the pointed style, and one can hardly avoid the conviction that this form was never thoroughly adopted by the people of this country, and it consequently never had much hold on their feelings or taste, and died out early, leaving only some wonderful specimens of masonic skill in the more monumental buildings, but very few evidences of true art or of sound knowledge of the true principles of architectural effect.



621. Bay Window from St. Sebald, Nuremberg.

BOOK VI.

ITALY.

CHAPTER I.

CONTENTS.

Amalgamation of styles — Geographical limits — Church at Vercelli — Asti — Padua — Cathedral of Sienna — Florence — Domes — St. Petronio, Bologna — Milan Cathedral — Duomo at Ferrara.

CHRONOLOGY.

	DATES.		DATES.
Bologna independent	A.D. 1112	Martino delle Torre at Milan	A.D. 1260
Countess Matilda at Florence	1115	Visconti Lord of Milan	1277
Ziani elected Doge of Venice	1173	Taddeo de Pepoli at Bologna	1334
Obizzo d'Este at Ferrara	1184	Conspiracy of Marino Faliero	1355
Enrico Dandolo takes Constantinople	1203	Gian Galeazzo Visconti Duke of Milan	1395
War between Genoa and Venice	1205	Verona ceded to Venice	1409
Azzo d'Este at Ferrara	1208	Cosmo de' Medici	1434
Martino della Scala at Verona	1259		

Pointed Architecture in Italy.

The history of the pointed style in Italy is even less instructive than that of the same art in Germany. Indeed, if regarded only in an artistic point of view, it is perhaps the least interesting chapter in the history of the architecture of the middle ages. Its importance consists in the evidence, imprinted on the buildings of the country, of the extent to which the influence of the Northern races with their feudal system was felt here, of the duration of that influence, and the degree in which it was modified by the Italian element which lay beneath. All this can be read at a glance in the architecture of the age, and nowhere is it depicted with the same clearness and fixed so unalterably and indelibly as it is in Italy.

To the mere student of architecture, too, it is interesting to trace at what points it failed to equal the contemporary styles on this side of the Alps, and from what causes, thus revealing to us the secrets of the success of the French architects, which, without this test, it might be difficult to detect. In Italy we find buildings scarcely surpassed in size by any others in Europe. The best possible construction is combined with the most beautiful material. The vaulted roofs

are of the most daring construction, supported by coupled piers; and the pointed arch, on which so much stress is usually laid, is used currently in every part; and yet with all this, these buildings are only cold, unmeaning, inartistic productions, with all the defects and hardly one of the beauties of the true pointed Gothic edifices. This being so, it cannot be difficult to find out to what the one style owes its perfection, and what was the cause of want of success in the other.

One great cause of this seems to lie deep in the character of the people. It is to be observed that, however excellent in other departments of art, no Italians were ever great architects. The Etruscans, as we have seen, were not extensive builders, though what they did they seem to have done well. The Romans borrowed a style from the Greeks, which they never understood, and which they misused, misapplied, and spoilt. The Lombards were Germanic foreigners in the land, and great and original as builders only so long as they retained their nationality. No sooner did their distinct character die out and the indigenous race resume its sway, than their architecture decayed; they adopted the then fashionable style of France and Germany, but adopted it late, without comprehending its principles. Dissatisfied with their own productions, the Italians quickly abandoned it, and returned to the old classical style. This last change seems to have been made far more from associations with the name of Rome, which alone rendered them and their peninsula illustrious, than from any distinct perception either of the beauty of the style itself or of its fitness for their purposes. Unfortunately for Europe, the revival of classical literature at the same time led the Northern nations to follow in the same vicious path, and to cover the land with all the absurdities of the revived classical school.

Among the material causes that aided this natural disposition or defect in the minds of the people, one of the principal was their dislike to, or inaptitude for appreciating the beauties of stained glass.

In a previous chapter it has been attempted to explain how all-important this was to the elaboration of the Gothic style. But for its introduction, the architecture of France would bear no resemblance to what we there find. In Italy, though the people loved polychromy, it was always of the opaque class. They delighted to cover the walls of their churches with frescoes or mosaics, to enrich their floors with the most gorgeous pavements, and to scatter golden stars on a blue ground over their vaults; but rarely, if ever, did they fill, or design to fill, their windows with painted glass. Perhaps the glare of an Italian sun may have tended to render its brilliancy intolerable. More probably the absence of stained glass in Italy is owing to its incompatibility with fresco-painting, the effect of which would be entirely destroyed by the superior brightness of the transparent material. The Italians were not prepared to relinquish the old and favourite mode of decoration in which they excelled. This adherence to the old method of ornamenting churches enabled them, in the 15th and 16th centuries,

to surpass all the world in the art of painting, but was fatal to the proper appreciation of the pointed style, and to its successful introduction into the land.

The first effect of this was that the windows in Italian churches were all small, and devoid of tracery with all its beautiful accompaniments. The walls, too, were consequently solid, and quite sufficient, by their own weight, to abut the thrust of the arches: so that neither projecting or flying buttresses nor pinnacles were needed. The buildings were thus deprived externally of all the aspiring vertical lines so characteristic of the true Gothic. The architects, to relieve the monotony arising from the want of these features, were forced to recur to the horizontal cornices of the classical times, and to cover their walls with a series of pannelling, which, however beautiful in itself, is both unmeaning and inconsistent.

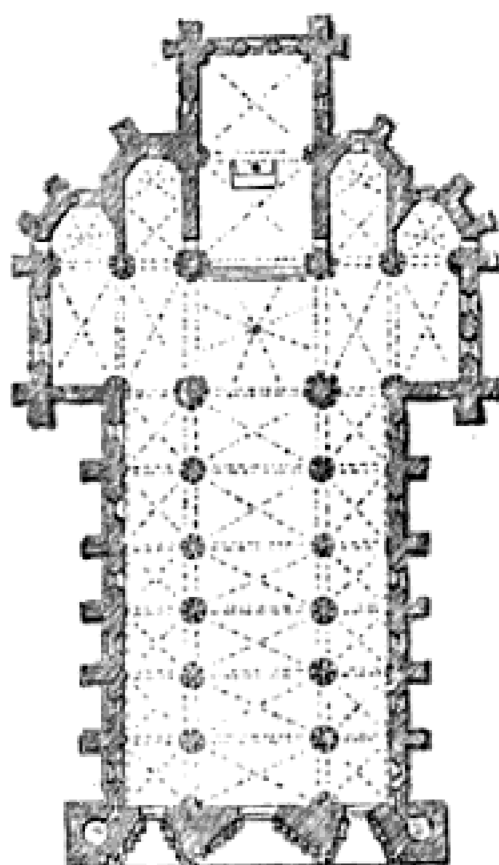
Internally, too, having no clerestory to make room for, and no constructive necessities to provide for, they jumped to the conclusion that the best design is that which covers the greatest space with the least expenditure of materials, and with the least encumbrance of the floor. With builders this is the golden rule, but with architects it is about the worst that can possibly be adopted. The Germans were not free from this fault, but the Italians carried it still further. If on four or five piers they could support the vault of a whole nave, they never dreamed of introducing more. A French architect in the same space, though probably superior in constructive skill, would have introduced eight or ten. An Italian would carry the vaults of the side aisles to the same height as that of the nave, if he could. A Northern architect knew how to keep the two in due proportion to one another, whereby he obtained greater height and greater width in the same bulk, and an appearance of height and width greater still, by the contrast between the parts. He gave to the building, moreover, a character of strength and stability perhaps even more valuable than that of size.

In the same manner the Northern architects, while they grouped shafts together, kept them perfectly distinct, so as to allow every one to bear its proportional part of the load, and perform its allotted task. The Italians never comprehended this principle, but merely stuck pilasters back to back, in imitation of the true architects, producing an unmeaning and ugly pier. The same incongruity occurs in every part and in every detail. It is a style copied without understanding, and executed without feeling. The beauty of the sculptured foliage and the elegance of the details sometimes go far to redeem these faults. The Italians, though bad architects, were always beautiful carvers, and as a Southern people, were free from the vulgarities sometimes apparent farther North. They never fell into the wild barbarisms that sometimes disfigure even the best buildings on this side of the Alps. When painting is joined to sculpture, the architecture may escape censure, owing to the subordinate position it then occupies. Unfortunately there are only two churches of any importance in this style that retain all their painted decorations—the church at Assisi, and the Certosa near Pavia. From this circumstance they are perhaps the most admired

in Italy. In others the plain blank spaces left for colour are still plain and void. We see the work of the architect unaided by the painting which was intended to set it off, and we cannot but condemn it as displaying at once bad taste and ignorance of the true Gothic style.

The geographical limits of the Italian Gothic style are easily defined, but before doing so it is necessary to state that there are in Italy two totally distinct classes of pointed architecture. The first, introduced from Sicily, a direct descendant of the Saracenic and Byzantine styles, and wholly unconnected with either the French or German. This arose in the 11th century, and will form the theme of the next chapter. It perished almost entirely about the time that the other penetrated across the Alps.

The Northern style, imported in the beginning of the 13th century, exactly corresponded with the limits attained by the German race to which it belongs. Wherever they settled in sufficient numbers to influence the population, there it is found; and in the exact ratio in which German blood is known to exist in a particular locality, does the pointed style prevail. It is thus found all over Lombardy and the valley of the Po. It extends down the centre of Italy to Sienna and Orvieto. It prevailed at one time at Florence and in Bologna; but nowhere, except in Venice and Genoa, extended to the coasts. The shores of Italy were so thickly peopled before the arrival of the barbarians that those districts were never permanently affected by them. In Rome the Gothic style is found timidly displaying itself in one church—the Sta. Maria sopra Minerva—of the 16th century, but it took no root in so Italian a city. It probably, however, exists at Benevento, and may also be found in some of the smaller towns; but to the north of Pavia only did it attain considerable prominence.


622. Plan of the Church at Vercelli. From Osten's Baukunst in Lombardei. Scale 100 ft. to 1 in.

One of the earliest, or perhaps the very first Italian edifice into which the pointed arch was introduced, is the fine church of St. Andrea at Vercelli, commenced in the year 1219 by the Cardinal Guala Bicchieri, and finished in three years. This prelate, having been long legate in England, brought back with him an English architect called, it is said, Brigwithe, and entrusted him with the erection of this church in his native place.

In plan, this church is certainly very like an English one, terminating squarely towards the east, and with side chaplets to the transepts, arranged very much as we find them at Buildwas, Kirkstall, and other churches of this class and size, only that here they are polygonal, which was hardly ever the case in England. But with this English plan all influences of the English architect seem

to have ceased, the rest being built in purely Italian style. Externally, the pointed arch nowhere appears, all the doors and windows being circular-headed; and internally it is confined to the pier-arches of the nave and the vaulting of the roof. The façade is flanked by two tall, slender, square towers at the angles; and the intersection of the nave and transept is covered by one of those elegant octagonal domes which the Italians knew so well how to use, and which is in fact the one original and good feature in their designs. The external form of this church is interesting, as being the prototype which was so greatly expanded two centuries afterwards by a German architect in the design of Milan cathedral.

A few years after this, in 1229, a church was commenced at Asti, and the tower finished in 1266. This allowed time for a more complete development of the pointed style, which here appears not only inter-



623. Church at Asti. From Chapuy, Moyen Age Monumental.

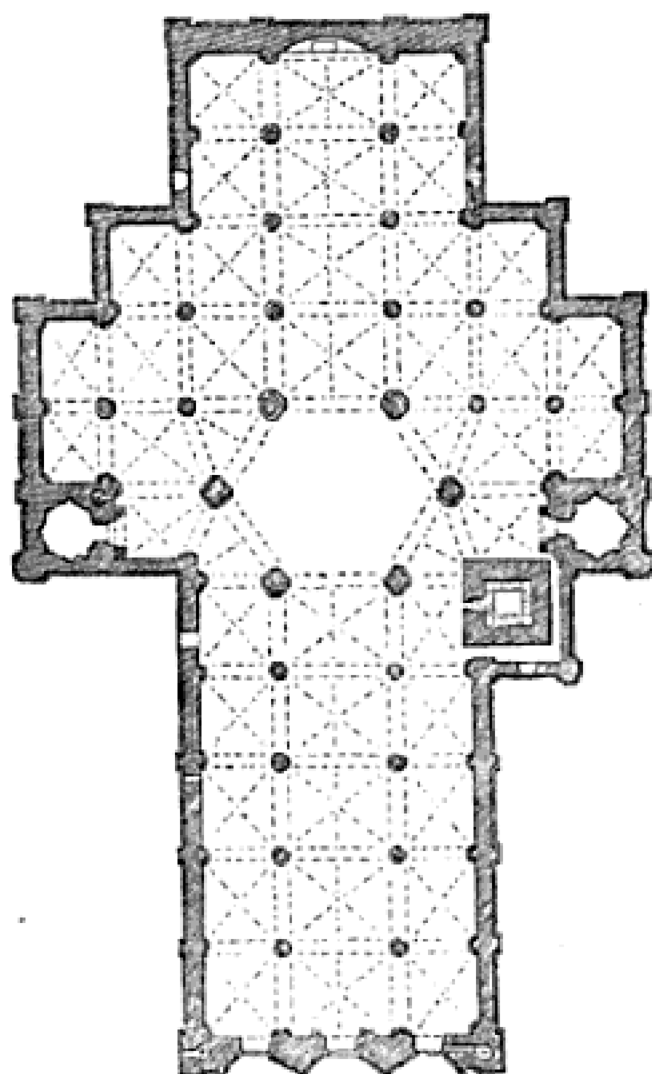
nally, but externally. Tall lancet windows appear in the flanks, and even the doorways assume this form in their canopies at least, if not in their openings. The porch shown in the view (woodcut No. 623) is a later addition, and a characteristic specimen of the style during the 14th century. This church is also one of the earliest examples in which those elegant terra-cotta cornices of little intersecting arches seem to have been brought to perfection.

The most remarkable church of this age is that of St. Francis at Assisi, commenced A.D. 1228, and finished, in all essentials at least, A.D. 1253. It is said to have been built by a German named Jacob, or Jacopo. Certainly no French or English architect would have designed a double church of this class, and no Italian could have drawn details so purely Northern in character as those of the upper church. In the lower church there are hardly any mouldings that mark the style, but still its character is certainly rather German than Italian. This church depends on its painting much more than on its architecture for its magnificence and character. In the first place it is small, the upper church being only 225 ft. long, by 36 in width; and though the lower one has side aisles which extend the width to 100 ft., the upper church is only 60 ft. in height, and the lower about half as high, so that it is far too small for much architectural magnificence. None of its details are equal to those of contemporary churches on this side of the Alps. The whole church is covered with fresco-paintings in great variety and of the most beautiful character, which render this church one of the most celebrated and admired of all Italy. Without its frescoes, and if found on this side of the Alps, it would hardly attract any attention. It is invaluable as an example showing to what extent polychromatic decoration may be profitably carried, and how it should be done; and also as an illustration of the extent to which the Italians allowed foreigners to introduce their style and mode of ornamentation into the country.

If from these we turn to the church of St. Antonio, Padua (1231-1307), we find the unsettled architectural ideas of the Italians assuming another form altogether. It is no longer a German or Englishman trying to engraft his own upon the old round-arched Lombard style, but an attempt to amalgamate those old forms with the Byzantine cupolas of the neighbouring city of Venice. A signal failure was the result, for an uglier church can hardly be found anywhere. Its Eastern domes, its German spires and narrow galleries of pointed arches, make up an aggregate that could exist nowhere else. We cannot regret that it found no imitators: on the contrary, the style in the valley of the Po seems to have settled down into what is generally known as Italian pointed Gothic, of which St. Anastasio at Verona (1307) may be taken as the type. This variety is not without some beauties of its own, but certainly inferior, both in originality of design and power of expression, to the round-arched style which it superseded, and immeasurably so in completeness and finish of arrangement and detail to the Northern style, which it was so vainly trying to imitate.

The cathedrals of Sienna and Orvieto (the former commenced in

1243, the latter in 1290) are perhaps, taken altogether, the most successful specimens of Italian pointed Gothic. They are those at least in which the system is carried to the greatest extent without either foreign aid or the application of distinctly foreign details. These two buildings, moreover, both retain their original façades as completed by the first architects, while the three great churches of this style—the cathedrals of Florence, Bologna, and Milan—were all left unfinished, as well as many others of the smaller churches of Italy. That at Sienna illustrates forcibly the tendency exhibited by the Italian architects to adhere to the domical forms of the old Etruscans, which the Romans amplified to such an extent, and the Byzantines made peculiarly their own. It is much to be regretted that the Italians only, of all the Western mediæval builders, showed any predilection for this form of roof. On this side of the Alps it would have been made the most beautiful of architectural forms.



624. Plan of Cathedral at Sienna. From the Eglises Principales d'Europe. Scale 100 ft. to 1 in.

In Italy there is no instance of more than moderate success—nothing, indeed, to encourage imitation. Even the instance now before us is no exception to these remarks, though one of the boldest efforts of Italian architects. In plan it ought to have been an octagon, but that apparently would have made it too large for their skill to execute, so they met the difficulty by adopting a hexagonal form, which, though producing a certain variety of perspective, fits awkwardly with the lines of columns, and twists the vaults to an unpleasant extent. Still a dome of moderate height, and 58 ft. in diameter, covering the centre of the church, and with sufficient space around it to give it dignity, is a noble and pleasing feature, the merit of which it is impossible to deny. Combined with the rich colouring and gorgeous furniture of the church, it makes up a whole of great beauty. The circular pier arches, however, and the black and white stripes by which the elevation is marked, detract considerably from the effect of the whole—at least in the eyes of strangers, though the Italians still consider this a beauty. The façade of this cathedral is represented (woodcut No. 625). It consists of three great portals, the arches of which are equal in size, though the doorway in the centre is larger than those at the sides. Above this is the invariable circular window of the Italian architects, and the whole is crowned by a steep triangular gable.

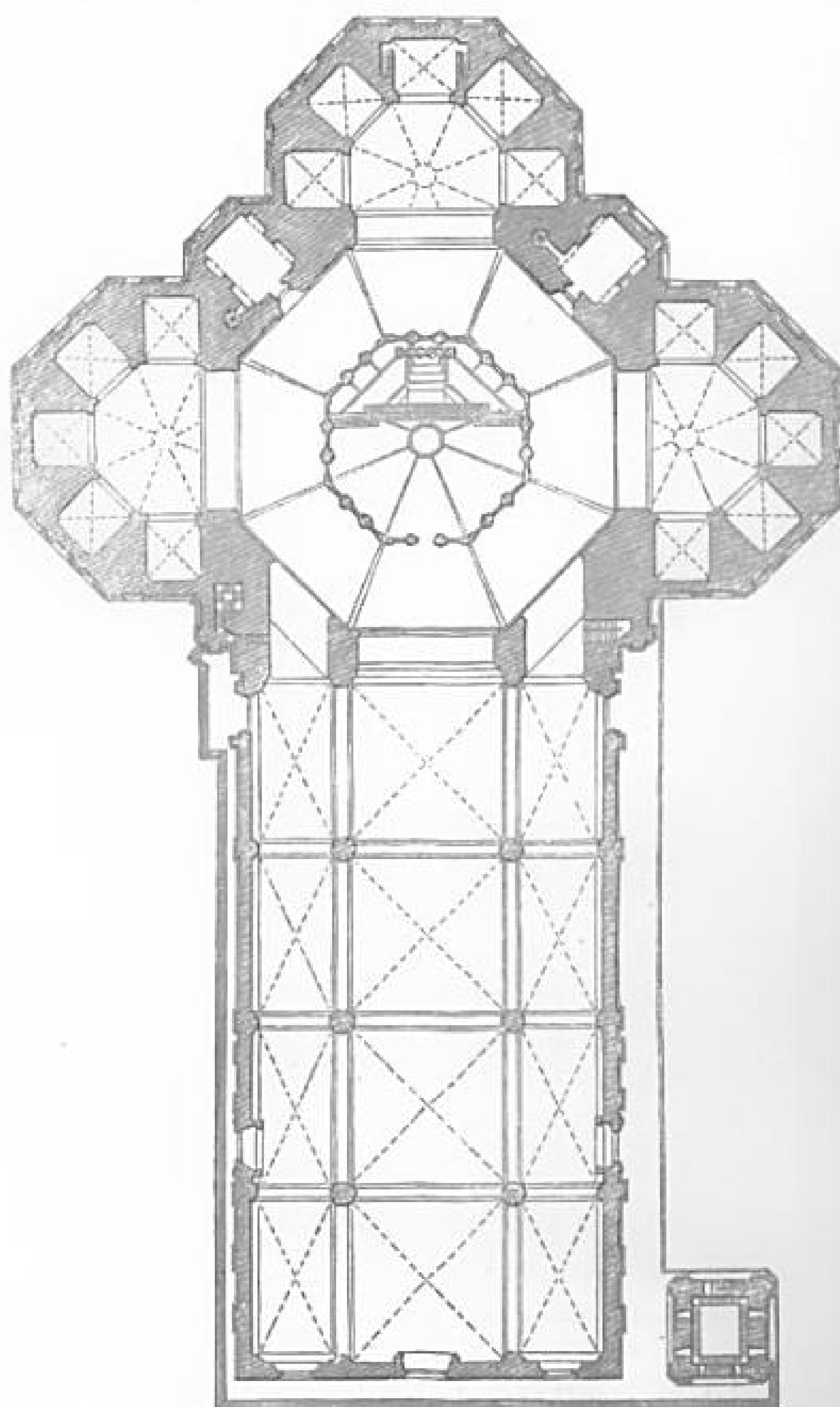
The carved architectural ornaments of this façade are rich and elaborate in the extreme, though figured sculpture is used to a much less extent than in Northern portals of the same age. It is also observable that the strong horizontal lines do not harmonise with the aspiring character of pointed architecture.



625. Façade of the Cathedral at Sienna.

The cathedral of Orvieto is smaller and simpler, and less rich in its decorations, than that at Sienna, with the exception of its façade, which is adorned with sculpture and painting. Indeed this three-gabled front may be considered the typical one for churches of this class. The façades intended to have been applied to the churches at Florence, Bologna, Milan, and elsewhere, were no doubt very similar to that re-

presented in woodcut No. 625. As a frontispiece, if elaborately sculptured and painted, it is not without considerable appropriateness and even beauty; but, as an architectural object, it is infinitely inferior to the double-towered façades of the Northern cathedrals, or even to those with only one great tower in the centre. It has besides the defect of not expressing what is behind it, the central gable being always higher than the roof, and the two others merely ornamental appendages. Indeed this, as well as the Italian Gothic buildings generally, depended on painting, sculpture, and carving for its effect, far more than on architectural design properly so called.

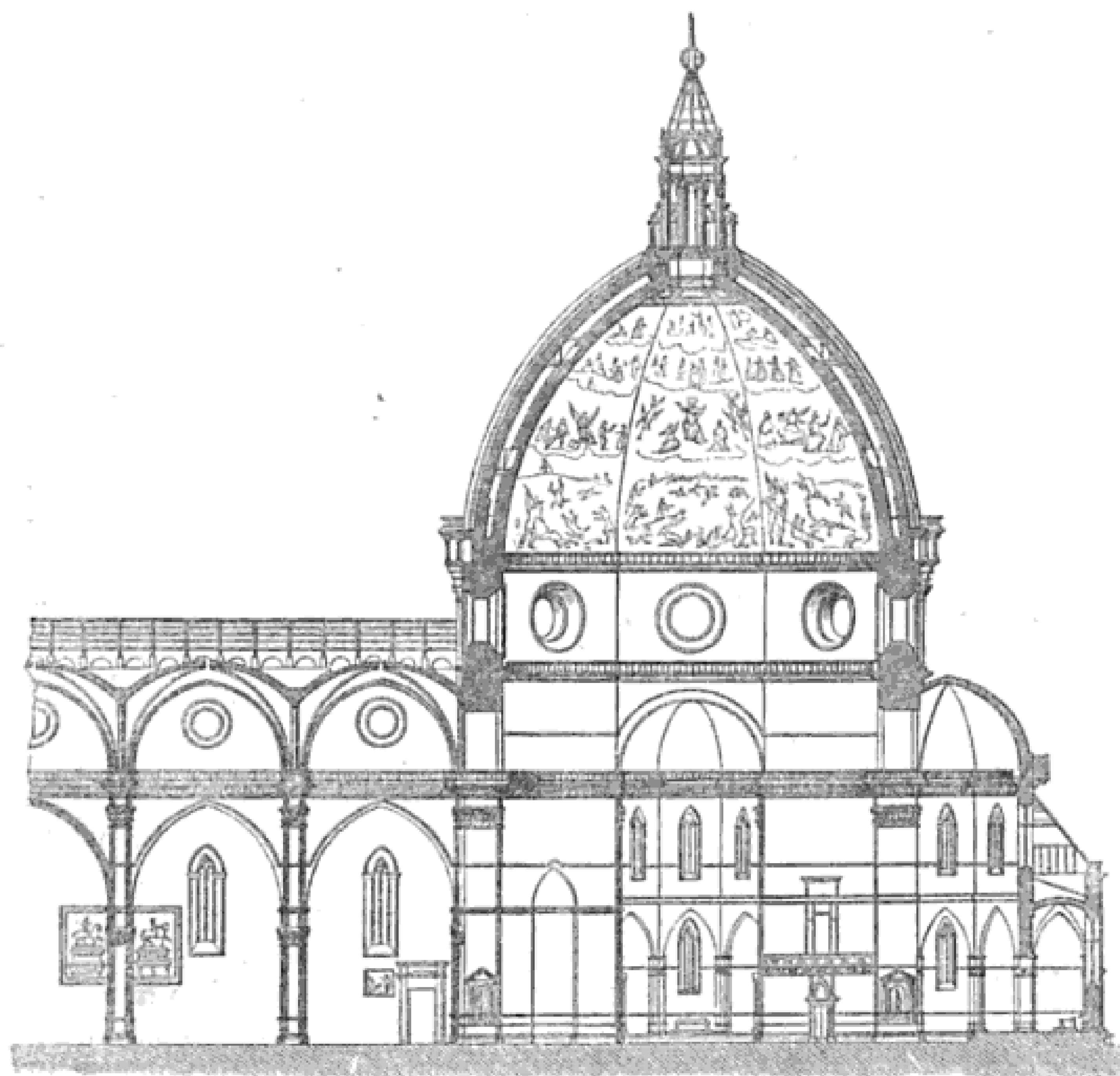


626. Plan of Cathedral at Florence. From Isabelle, Edifices Circulaires. Scale 100 ft. to 1 in.

By far the greatest and most perfect example of Italian Gothic is the church of Sta. Maria dei Fiori, the cathedral of Florence, one of the largest and finest churches produced in the middle ages—as far as mere grandeur of conception goes, perhaps the very best, though considerably marred in the execution.

The building of the church was commenced in the year 1294 or 1298 (it is not quite clear which), from the designs and under the superintendence of Arnolpho da Lapo, for unfortunately in this style we know the names of all the architects; and all the churches show traces of individual caprice, and the misdirected efforts of individuals, instead of the combined national movement which pro-

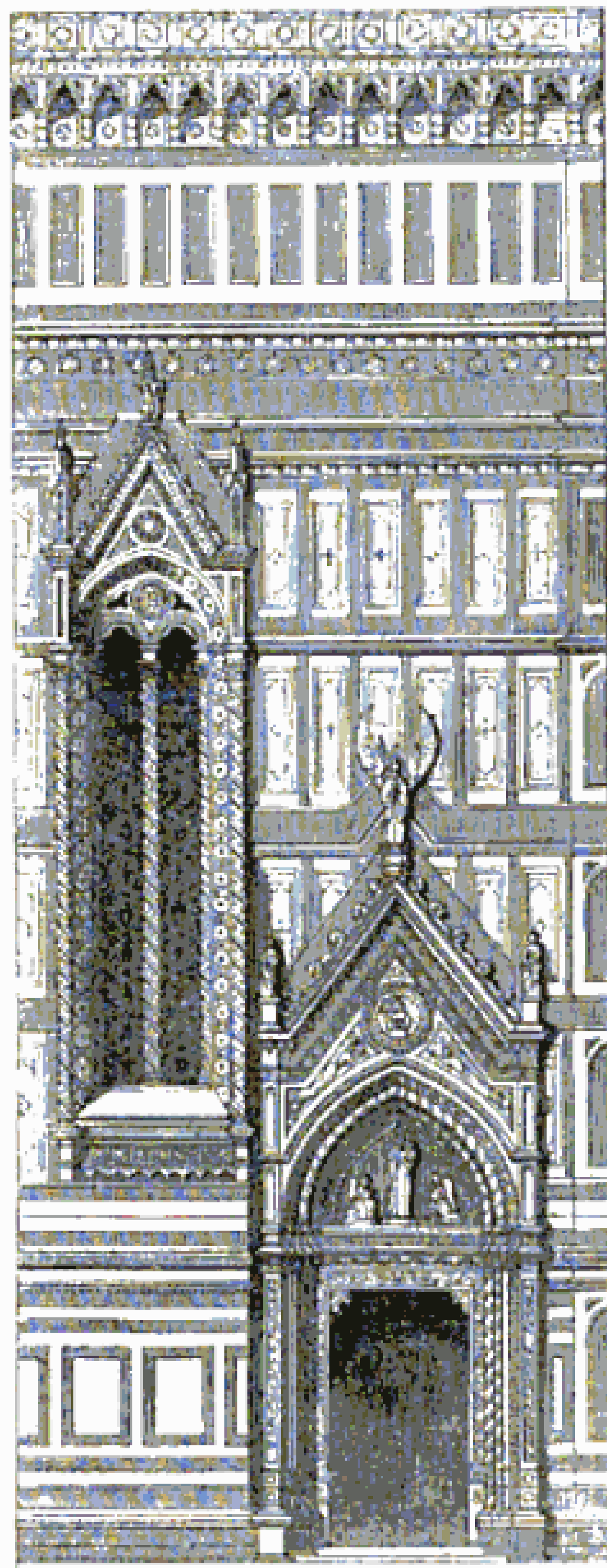
duced such splendid results in France and England. It is not quite clear how far Arnolpho carried the building, but probably as high as the springing of the vaults, at the time of his death in 1300. After this the works proceeded more leisurely, but the nave and smaller domes of the choir were probably completed as we now find them in the first 20 years of the 14th century. The great octagon remained uncovered till Brunelleschi commenced the present dome, A.D. 1420, and completed it in all essential parts before his death, which happened in 1444. The building may therefore be considered as essentially contemporary with the cathedral of Cologne, and is very nearly of the



627. Section of Dome and part of Nave of the Cathedral at Florence. Scale 100 ft. to 1 in.

same size, covering 84,802 ft. (Cologne 81,461), and, as far as mere conception of plan goes, there can be little doubt but that the Florentine cathedral far surpasses its German rival. Nothing indeed can be finer than the general plan of the Italian church. A vast nave leads to an enormous dome, extending into the triapsal arrangement so common in the early churches of Cologne, and which was repeated in the last and greatest effort of the middle ages, or rather the first of the new school—the great church of St. Peter at Rome. In the Florentine church all these parts are better subordinated and proportioned than

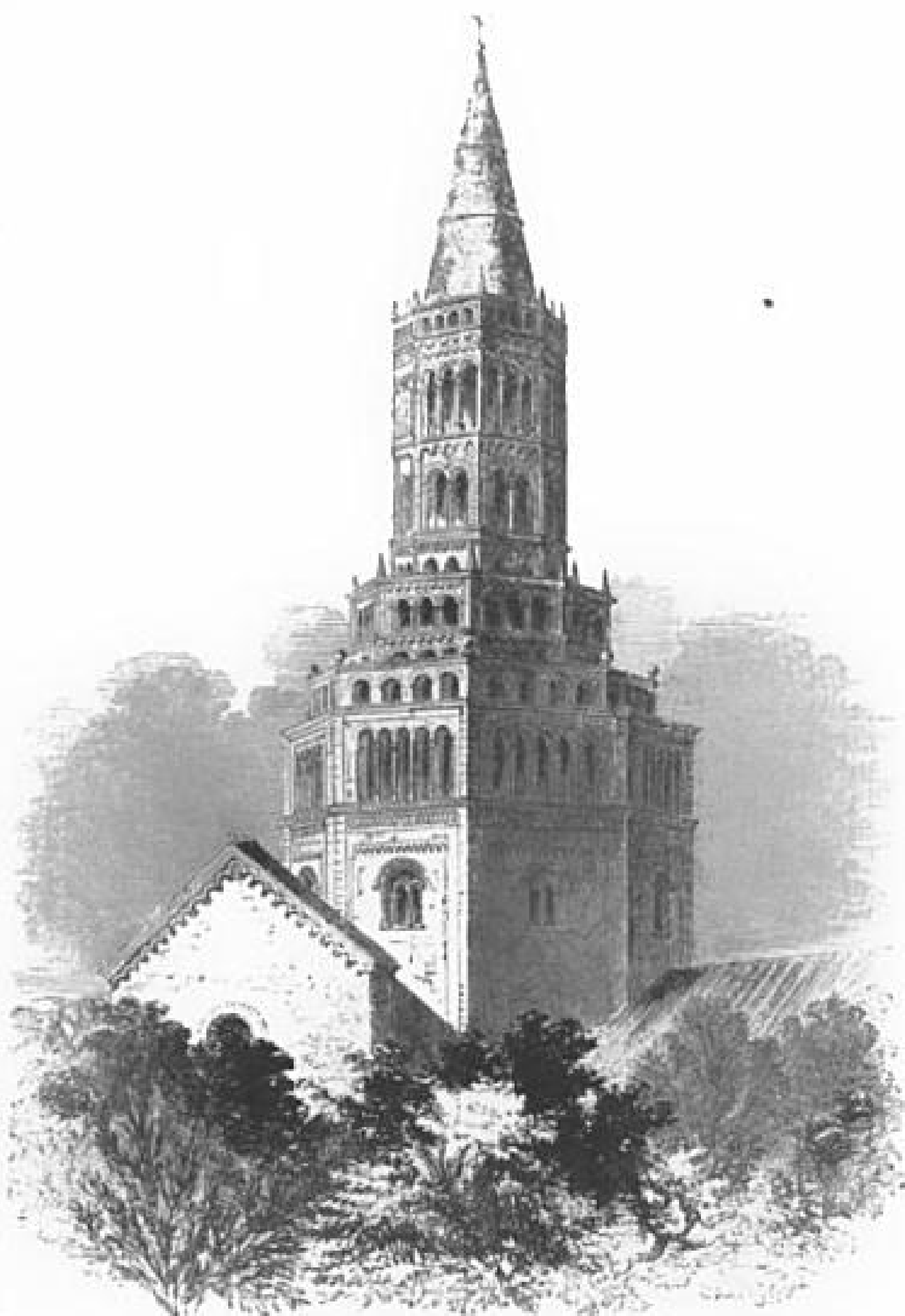
in any other example, and the mode in which the effect increases and the whole expands as we approach from the entrance to the sanctum is unrivalled. All this, alas! is utterly thrown away in the execution. Like all inexperienced architects, Arnolpho seems to have thought that greatness of parts would add to the greatness of the whole, and in consequence used only 4 great arches in the whole length of his nave, giving the central aisle a width of 55 ft. clear. The whole width is within 10 ft. of that of Cologne, and the height about the same; and yet, in appearance, the height is about half, and the breadth less than half, owing to the better proportion of the parts and to the superior appropriateness in the details on the part of the German cathedral. Here the details are positively ugly. The windows of the side aisles are small and misplaced, those of the clerestory mere circular holes. The proportion of the aisles one to another is bad, the vaults ill formed, and altogether a colder and less effective design was not produced in the middle ages. The triapsal choir is not so objectionable as the nave, but there are large plain spaces that now look cold and flat; the windows are too small, and there is a gloom about the whole which is very unsatisfactory. It is more than probable that the original intention was to paint the walls, and not to colour the windows, so that these defects are not perhaps chargeable to the original design.



628. Part of the Flank of Cathedral at Florence.

Externally the façade was never finished, and we can only fancy what was intended from the analogy of Sienna and Orvieto. The flanks of the nave are without buttresses or pinnacles, and with only a few insignificant windows would be painfully flat, except for a veneer of coloured marbles disposed in pannels over the whole surface. For an interior or a pavement such a mode of decoration is admissible; but it is so unconstructive, so evidently a mere decoration, that it gives a weakness to the whole, and a most unsatisfactory appearance to so large a building. This is much less apparent at the east end: the outline is here so broken, and the main lines of the construction so plainly

marked, that the mere filling in is comparatively unimportant. This part is the great beauty of the church, and as far as it was carried up according to the original design, is extremely beautiful. Even the plainness and flatness of the nave serve as a foil to set off the beauty of the choir. Above the line of the cornice of the side-aisles there is nothing, except the first division of the drum of the dome, which follows the lines of the clerestory, that can be said to belong to the original design. It has long been a question what Arnolpho originally intended, and how he meant to cover the great octagonal space he had prepared. All knowledge of his intentions seems to have been lost within a century after his death: at least in the accounts we have of the proceedings of the commission which resulted in the adoption of Brunelleschi's design for the dome, no reference is made to any original design as then existing, and no one seems to have known how Arnolpho intended to finish his work. Judging from the work so far as it was carried by him, with the knowledge which we now have of Italian architecture of that age, we can form a very probable conjecture of his design for its completion. It is likely that this consisted of, internally, a dome something like the present, but flatter, springing from the cornice 40 ft. lower than the present one, and pierced with openings on each face.

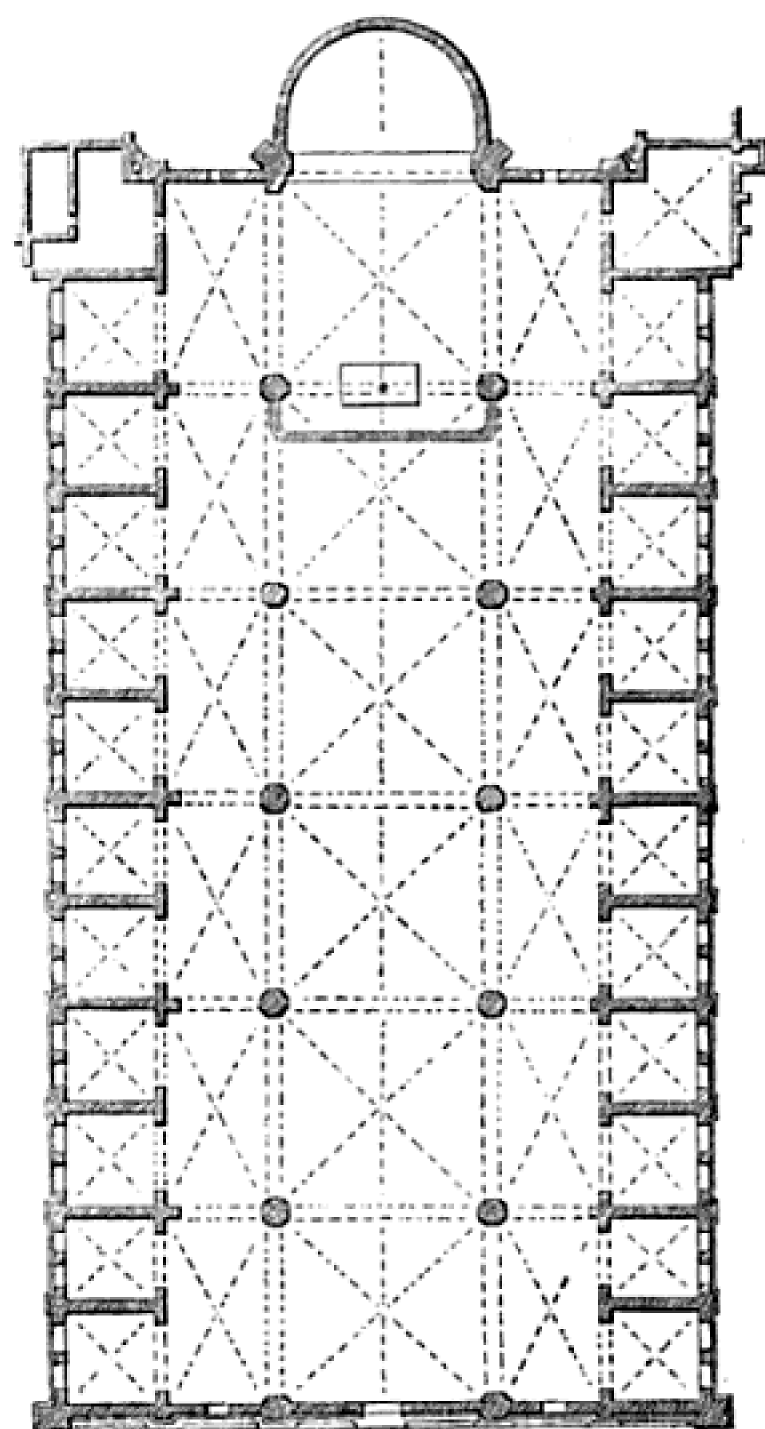


629. Dome at Chiaravalle, near Milan. From a drawing by Ed. Falkener, Esq.

Externally, it was probably to be arranged something like that of Chiaravalle, near Milan (woodcut No. 629), built in 1221, of course with different details, but in stories, so as to render the construction easy; and this would have been carried up to a height of not less than 500 ft., about equal to the length

of the church. The three semi-domes around the great dome must have been intended to be covered with miniature octagonal spires of the same class, and between these the vast substructures show that it was intended to carry up 4 great spires, probably to the height of 400 ft.

Had all this been done (and something very like it certainly was intended), neither Cologne Cathedral, nor any church in Europe, either ancient or modern, could be compared with this great and glorious apse. As it is, the plain, heavy, simple outlined dome of Brunelleschi acts like an extinguisher, and crushes the whole of the lower part of the composition, and both internally and externally destroys all harmony between the parts. It has deprived us of the only chance that ever existed of judging of the effect of a great Gothic dome; not indeed such a dome as might on the same dimensions have been executed on this side of the Alps, but still in the spirit, and with much of the poetry, which gives such value to the conceptions of the builders in those days.

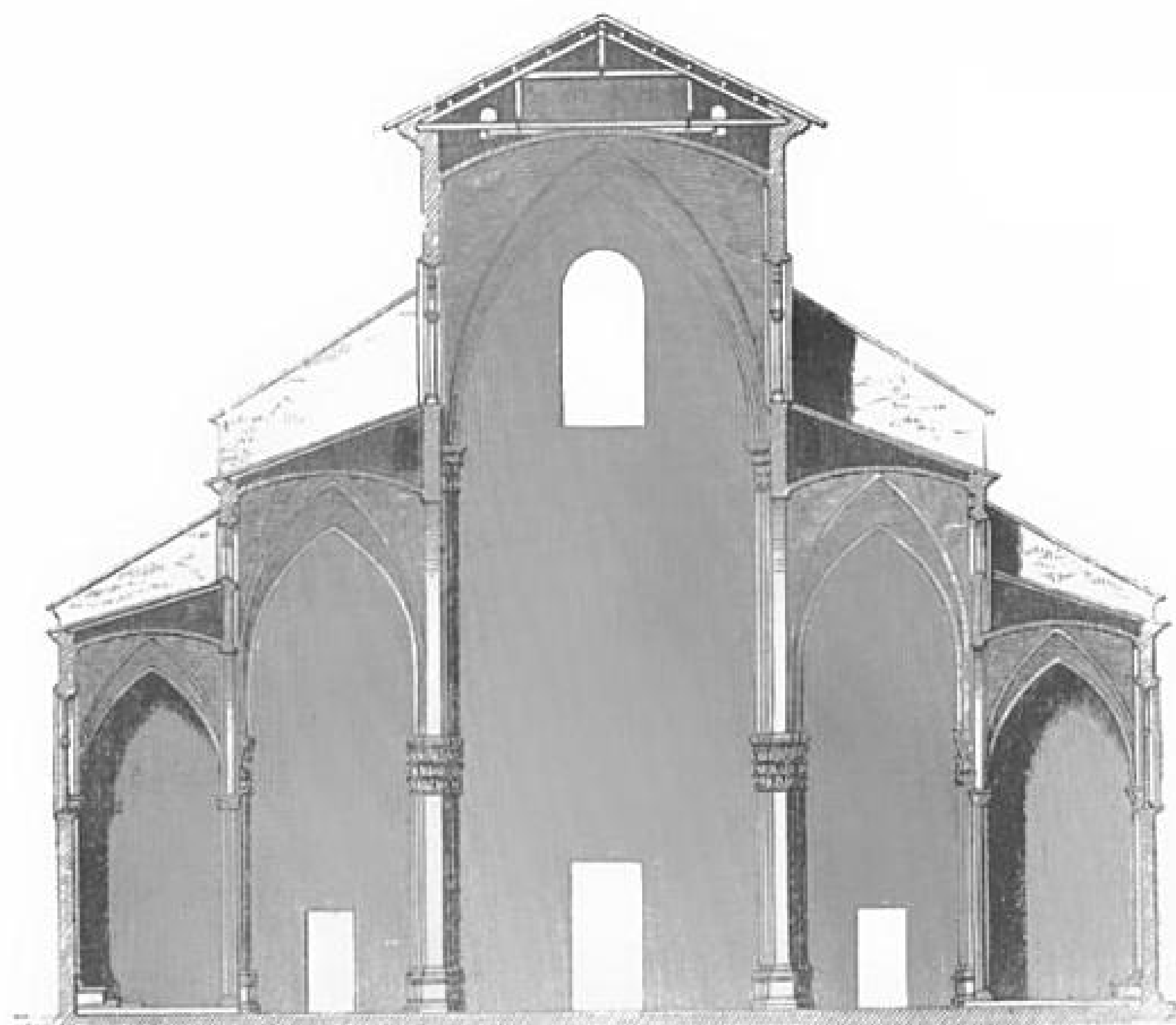


630. Plan of the part executed of St. Petronio, Bologna. From Wiebeking. Scale 100 ft. to 1 in.

But for this change in the plan, the ambition of the Florentines might have been in some measure satisfied, whose instructions to the architect were, that their cathedral "should surpass everything that human industry or human power had conceived of great and beautiful."

About a century later (1390), the Bolognese determined on the erection of a monster cathedral, that, in so far as size went, would have been more than double that at Florence. According to the plans that have come down to us, it was to have been about 800 ft. long and 525 wide across the transepts; at the intersection was to have been a dome 130 ft. in diameter, or only 6 ft. less than that at Florence; and the width of both nave and transepts was to have been 183 ft.: so that the whole would have covered about 212,000 ft., or nearly the same area as St. Peter's at Rome, and three times that of any French cathedral! Of this vast design, only about one-third, or 74,000 square ft., was ever executed; and it is fortunate that it stopped there, as no

uglier building was ever designed or executed. The plan and section of it (woodcuts Nos. 630 and 631) are not without interest, as illustrating the principles of Italian design, and useful for comparison either with such buildings as the beautiful cathedral at Bourges, which has aisles of different heights like this, or to illustrate the great cathedral of Milan, which comes next in our series.



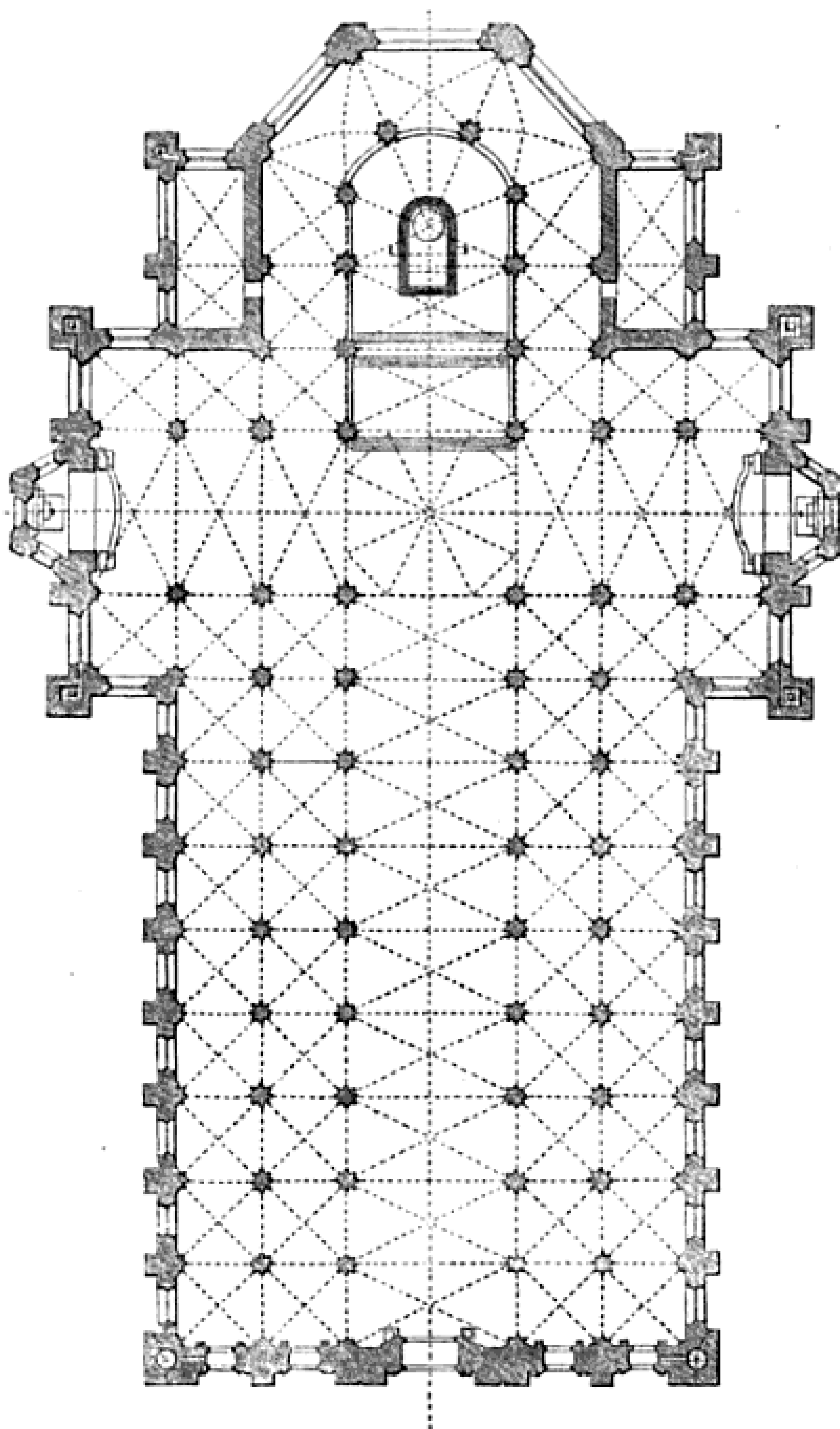
631. Section of St. Petronio, Bologna. From Wiebeking. Scale 50 ft. to 1 in.

As will be seen from the plan, the great object of the architect seems to have been to cover the greatest possible space from the fewest possible points of support, using his side chapels to get internal instead of external buttresses. In this design, the square of the vault of the central nave becomes the modulus, instead of that of the side-aisles as in all true Gothic buildings. Hence the nave is constructed with only six bays in length instead of twelve, and all the other parts are lean and wide in proportion.

The cathedral of Milan, which is certainly the most remarkable as well as the largest and richest of all the churches erected in the middle ages, was commenced in the year 1385, by order of John Galeazzo, first Duke of Milan, and consecrated in 1418, by which time all the essential parts seem to have been completed, though the central spire was not finished till about the year 1440 by Brunelleschi.

The design for this church is said to have been furnished by Henry Arlez of Gemunden, or as the Italians call him, de Gamodia, a German

architect; and it is certain that a foreigner must have been employed —the details and many of the forms are so essentially Northern; but it is equally certain that he was not allowed to control the whole, for all the great features of the church are as thoroughly Italian as the details are German: it is therefore by no means improbable that Marco de Campilione, as the Italians assert, or some other native artist, was joined with or controlled him.

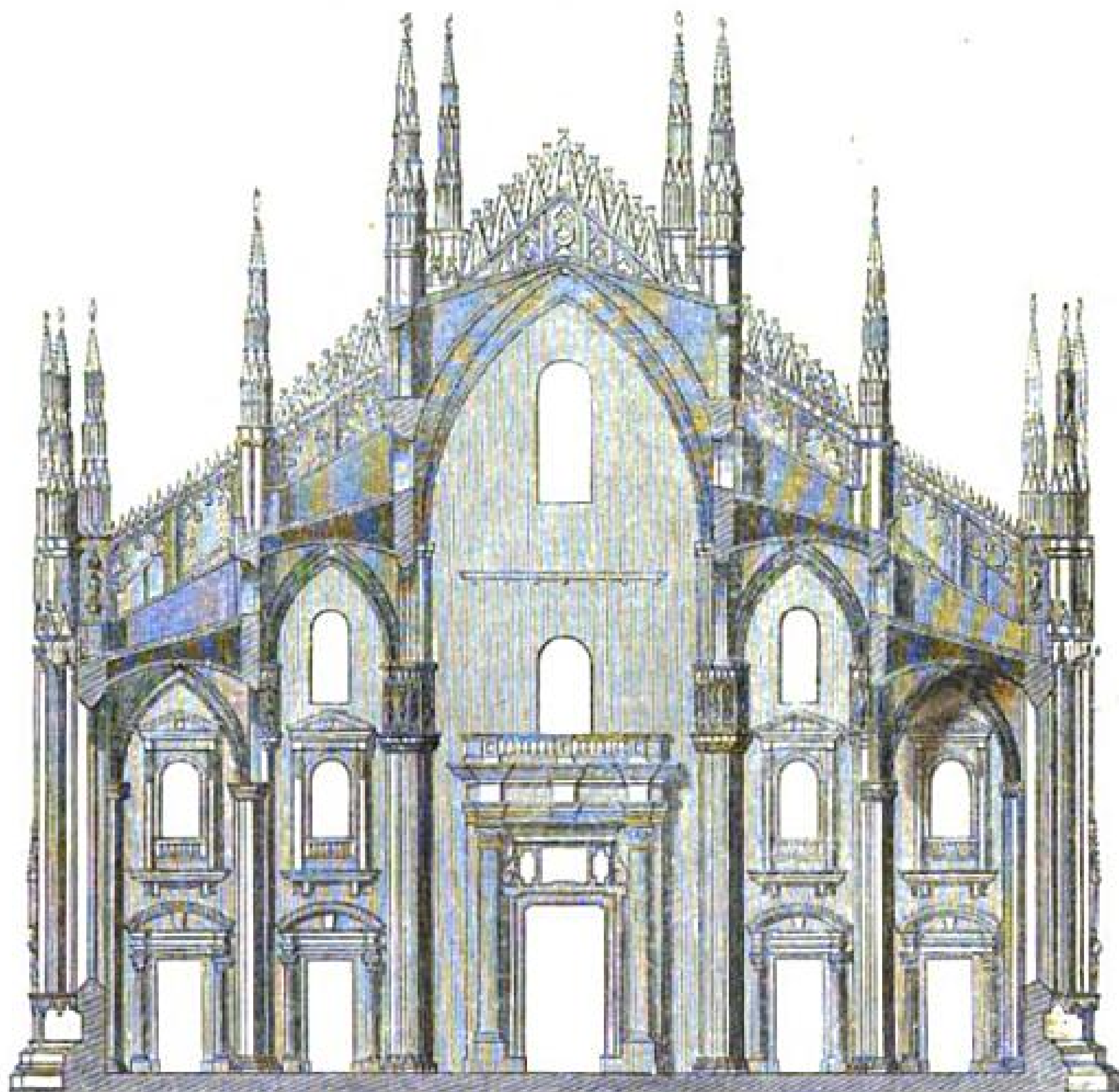


632. Plan of the Cathedral of Milan. From Chiesi Principali d'Europa. Scale 100 ft. to 1 in.

In size it is the largest of all Mediæval cathedrals, covering 107,782 ft. In material it is the richest, being built wholly of white marble, which is scarcely the case with any other church, large or small; and in decoration it is the most gorgeous: the whole of the exterior is covered with tracery, and the amount of carving and statuary lavished on its pinnacles and spires is unrivalled by any other building of Europe. It is also built wholly (with the exception of the façade) according to one design. Yet with all these advantages, the appearance of this wonderful building is not satisfactory to any one who is familiar with the great edifices on this side of the Alps. Cologne, if complete, would be more beautiful; Rheims, Chartres, Amiens, and Bourges leave a far more satisfactory impression on the mind; and even the little

church of St. Ouen will convey far more pleasure to the true artist than this gorgeous temple.

The cause of all this it is easy to understand, as all or nearly all its defects arise from the introduction of Italian features into a Gothic building; or rather, perhaps, it should be said, that all that was allowed the German architect was to ornament an Italian cathedral. Taking the contemporary cathedral of St. Petronio at Bologna as our standard of comparison, it will be seen that the section (woodcut No. 631) is almost identical both as to dimensions and form; but from



633. Section of Cathedral of Milan.[1] From Wiebeking. Scale 50 ft. to 1 in.

the plan, it will be perceived that the German system prevailed in doubling the number of piers between the central and side-aisles, and so far saved the church. The two small clerestories, however, still remain; and although the design avoids the mullionless little circles of Bologna, there is only space for little openings, which might rather be called attic than clerestory windows. The greater quantity of light being thus introduced by the tall windows of the

[1] The plan and section being taken from two different writers, there is a slight discrepancy between the scales. I believe the plan to be the more correct of the two, though I have no means of being quite certain regarding this.

outer aisle, the appearance is that of a building lighted from below, which is fatal to architectural effect.

The German architect seems to have designed great portals at each end of the transepts, as shown in the model still preserved on the spot. This was overruled, and three small polygonal apses substituted. Instead of the great octagonal dome which an Italian would have placed upon the intersection of the whole width of the nave and transepts, German influence has confined it to the central aisle, which is perhaps more to be regretted than any other mistake in the building. The choir is neither a French chevet nor a German or Italian apse, but a compromise between the two, a French circlet of columns enclosed in a German polygonal termination. This part of the building, with its simple forms and three glorious windows, is perhaps an improvement on both the methods of which it is compounded.

This is the nearest approach to the French chevet arrangement to be found in all Italy. It is extremely rare to find in that country an aisle running round the choir, but not opening into it, with the circlet of apsidal chapels which is so universal in France. The Italian church is not, in fact, derived from a combination of a circular Eastern church with a Western rectangular nave, but a direct copy from the old Roman basilica.

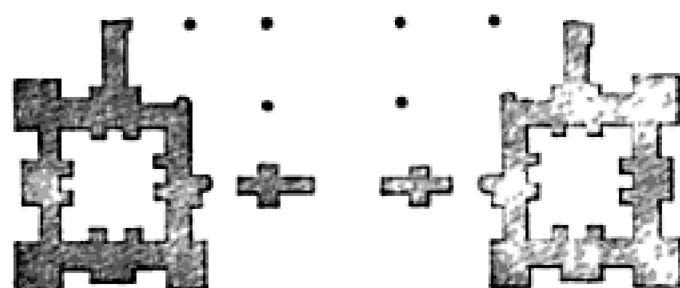
The details of the interior are almost wholly German. The great capitals of the pillars, with their niches and statues, are the only compromise between the ordinary German form and the great deep ugly capitals, fragments in fact of classical entablatures, which disfigure the cathedrals of Florence and Bologna, and so many other Italian churches. Had the ornamentation of these been carried up to the springing of the vault, they would have been unexceptionable; as it is, with all their richness their effect is unmeaning.

Externally, the appearance is very similar to that of Sta. Maria dei Fiori; the apse is rich, varied, and picturesque, and the central dome (excepting the details) exactly similar, though on a smaller scale, to what I believe to have been the original design of the Florentine church. The nave is nearly as flat as at Florence, the clerestory not being visible; but the forest of pinnacles and flying buttresses and the richness of the ornamentation go far to hide that defect. The façade was left unfinished, as in so many others of the great churches of Italy. Pellegrini was afterwards employed to finish it, and a model of his design is still preserved. This plan is such, that it is fortunate that it was not carried out. The façade was finished, as we now see it, from the designs of Amati, by order of Napoleon. It is common-place, as might be expected from its age, but inoffensive. The doorways are part of Pellegrini's design, and the mediæval forms being placed over those of the cinque-cento, produce a strangely incongruous effect. Several original designs for this west front are still preserved. One of these, with two small square towers at the angles, as at Vercelli and elsewhere, no doubt was the Italian design. The German one is preserved by Bassi,[1] of

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[1] Dispareri d'Architettura.

which woodcut No. 634 is a tracing: had this been executed, the façade would have been about one-third, or 100 ft. wider than that of Cologne. If the height of the towers had been greater in the same proportion, they would have been the tallest in the world. In that case the effect would have been the same here as at Cologne, of shortening and overpowering the rest of the building to a painful extent. A medium design between these two, with spires rising to the same height as the central one, or about 360 ft., would perhaps have the happiest effect. It is certain that the want of some such features is greatly felt in the exterior of this building.



634. Design for Façade of Milan Cathedral. From Bassi.

The Certosa, near Pavia, was commenced at the same time as the cathedral at Milan (1396). It is remarkable in the middle ages to find two buildings, so close to one another in date and locality, so dissimilar as these are. There is no instance of such an occurrence on this side of the Alps, till modern times at least; and it shows that in those days the Italians were nearly as devoid of any distinct principles of architecture as we have since become.

The great difference here is that there is no trace of foreign influence in the building. It is as purely Italian as St. Petronio, and perhaps even worse in design—internally at least—which is saying a good deal. Nothing, however, can be more painful than the disproportion of the parts, the bad drawing of the details, the malformation of the vaults, and the meanness of the windows; but all these defects are so completely hidden by the most gorgeous colouring and furniture of such richness as almost to be unrivalled. So much more attractive are these two features to the majority of spectators, and so much more easily understood, that nine visitors out of ten are delighted with this church, and entirely overlook its miserable architecture in the richness and brilliancy of its decorations.

Externally the architecture is better than in the interior. From its proximity to Pavia, it retains its beautiful old galleries under the roof. Its circular apses, with their galleries, give to this church, for the age to which it belongs, a peculiar character, harmonizing well with the circular-headed form, which nearly all the windows and openings present. Even in the interior there are far more circular than pointed arches.

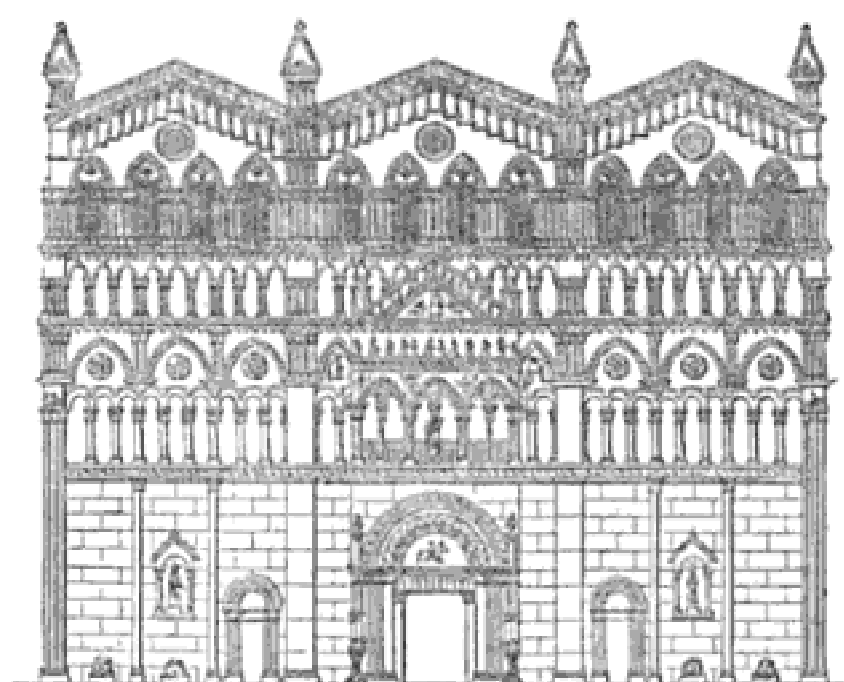
The most beautiful and wonderful part of the building is the façade. This was begun in 1473, and is one of the best specimens in Italy of the Renaissance style. It therefore does not come within the subject of the present chapter.

It would be a tedious and unprofitable task to attempt to particularize all the churches which were erected in this style in Italy, as hardly one of them possesses a single title to admiration beyond the very vulgar one of size. To this Santa Croce, at Florence, adds its

association with the great men that lie buried in its vaults, and Sta. Maria Novella can plead the exceptional circumstance in that city of possessing a façade; but neither of these has anything to redeem its innate ugliness in the eyes of an architect.

There are two great churches at Venice, the San Giovanni e Paulo (1246-1420), and the Frari (1250); but they are both entirely destitute of architectural merit.

A much more beautiful building is the Duomo at Como, the details of which are so elegant and so unobtrusively used as in great measure to make up for the bad design and awkward form of the whole. Its façade is perhaps inferior to that of the Duomo at Ferrara. Here we do not find the richness of the façades of Sienna or Orvieto, nor the elegance of the last named; but among the few that exist it stands pre-eminent for sober propriety of design, and the good proportions of all its parts. The repose caused by the solidity of the lower parts, and the gradual increase of ornament and lightness as we ascend, all combine to render it harmonious and pleasing. It is true it wants the aspiring character and bold relief of Northern façades; but these do not belong to the style, and it must suffice here if we meet with a moderate amount of variety, undisturbed with any very prominent instances of bad taste.

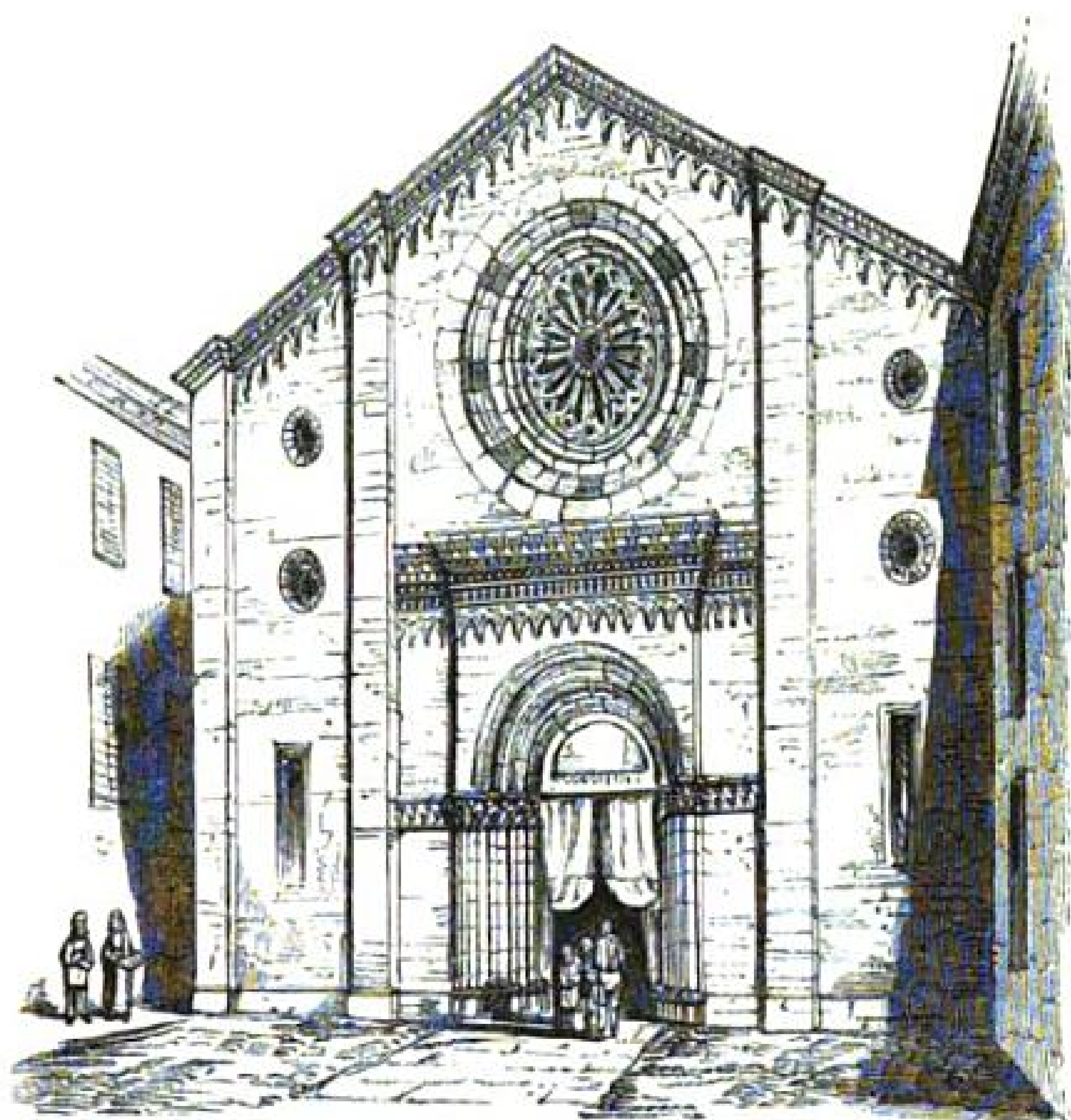


635. Duomo at Ferrara. From Hope's Architecture. Scale 50 ft. to 1 in.

The true type of an Italian façade is well illustrated in the view of St. Francesco, Brescia (woodcut No. 636), which may be considered the germ of all that followed. Whether the church had three aisles or five, the true Italian façade in the age of pointed architecture was always a modification or extension of this idea, though introduced with more or less Gothic feeling according to the circumstances in which it was placed.

At Florence there is a house or warehouse, converted into a church, Orsan San Michele (Horreum), which has attracted a good deal of attention, but more on account of its curious ornaments than for any beauty of design, which it does not, and indeed can hardly be expected to possess. The little chapel of Sta. Maria della Spina, at Pisa, owes its celebrity to the richness of its niches and canopies, and to the sculpture which they contain. In this the Italians were always at home, and probably always surpassed the Northern nations. It was far otherwise with architecture, properly so called. This, in the age of the pointed style, was in Italy so cold and unmeaning, that we do not wonder at the readiness there displayed to return to the classical

models. The Italians are to be forgiven in this, but we cannot so easily forgive *our* forefathers, who abandoned a far more beautiful style to copy one which they had themselves infinitely surpassed, and this only because the Italians, unable either to comprehend or imitate the true principles of pointed art, were forced to abandon its practice. Unfortunately for us, they had in this respect sufficient influence to set the fashion to all Europe.



636. View of St. Francesco, Brescia. From Street's Brick and Marble in the Middle Ages.

CHAPTER II.

CONTENTS.

Circular Buildings.

There are very few specimens of circular or polygonal buildings of any class belonging to the Gothic age in Italy. As churches it is not expected that we should find any. Baptisteries had also passed out of fashion. One such building, at Parma, commenced in 1196, deserves to be quoted, not certainly for its beauty, but as illustrating those false principles of design shown in every part of every building of this age in Italy.

Externally the building is an octagon, 6 stories in height, the 4 upper of which are merely used to conceal a dome, which is covered by a flat wooden roof. The lower and upper stories are solid, the others are galleries supported by little ill-shaped columns. It is probable that this was not the original design of the architect, Antelami. No doubt he must have intended to conceal the dome, or at all events to cover it, as this was universally done in Italy; but instead of a mere perpendicular wall as here used, the external outline should have assumed a conical form, which might have rendered it as pleasing as it is now awkward. We have no instance of a circular building carried out by Italian architects according to their own principles, so far as to enable us to judge what they were capable of in this style, unless perhaps it is the tombs of the Scaligers at Verona. These take the circular or polygonal form appropriate to tombs, but they are on so small a scale that they might rather be called crosses than mausolea; and though illustrating all the best principles of Italian design, and an exuberance of exquisite ornament, they can hardly be regarded as important objects of high art. It is from such as these, however, and from these only, that we may recover the principles of this art; for not being, as the Northern styles, a progressive national effort, but generally an individual exertion, if the architect died during the progress of a building, no one knew exactly how he had intended to finish it, and its completion was entrusted to the caprice and fancy of some other man, which he indulged, wholly regardless of its congruity with the work of his predecessor.

TOWERS.

The Italians in the age of pointed architecture were hardly more successful in their towers than in their other buildings, except that a tower, from its height, must always be a striking object, and, if accompanied by mass, cannot fail to have a certain imposing appearance, of which no clumsiness on the part of the architect can deprive it. Such towers as the Asinelli and Garisenda at Bologna possess no more architectural merit than the chimneys of our factories. Most of those subsequently erected were better than these, but still the Italians never caught the true idea of a spire.

Throughout the whole of the middle ages the Italians retained the original square form, making them as broad at the summit as at the base. With very few exceptions they are without buttresses, or any projection on the angles to give them even an appearance of strength. The consequence is, that when they placed a spire on such an edifice as this, it always fitted awkwardly: they never understood the art of preparing for it, first by the graduated buttresses of the base, then by the strongly marked vertical lines of the upper part of the tower, and above all by the circlet of little spirelets round the base of the central spire that made it an absolute necessity of the composition. If the Italians, on the contrary, placed an octagon on their square towers, it seemed an accident for which nothing was prepared, and the spire was



637. View of the Duomo at Prato. From Wiebeking.

separated from it only by bold horizontal cornices instead of vertical lines, as true taste dictated.

In fact, the Italians seem to have benefited less by the experience or instruction of their Northern neighbours in tower-building than in any other feature of the style, and to have retained their old forms in these after they had abandoned them in other parts of their churches. The towers of Asti (1266) and Sienna (rebuilt in 1389) are illustrated in woodcuts Nos. 623 and 625. There certainly is little art in these. A more pleasing specimen is the tower (woodcut No. 637) attached to the Duomo at Prato (about 1312), which may be considered as a specimen of the very best class of Italian tower design of this age, although in fact its only merit consists in increasing the size of the openings in every story upwards, so as to give a certain degree of lightness to the upper part. This was almost always accomplished on this side of the Alps by diminishing the diameter. When a spire is to be added, that is the only admissible mode; but when the building is to be crowned by a cornice as this at Prato, the mode

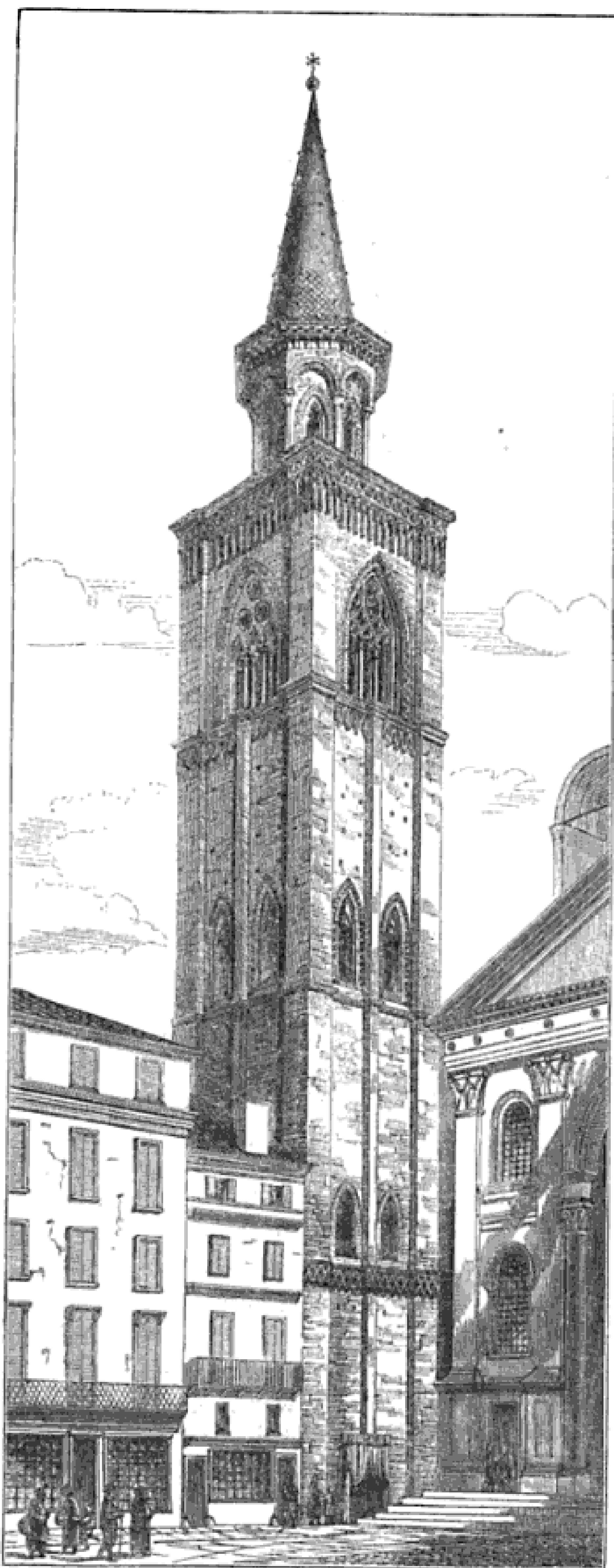


638. Campanile, Palazzo Scaligeri, Verona. From Street's Work.

here shown is perhaps preferable.

The tower which is attached to the palace of the Scaligeri at Verona (woodcut No. 638) is perhaps as graceful as any other, and as characteristic of the Italian principles of tower-building. The lower part is absolutely plain and solid, the upper story of the square being pierced with one splendid three-light window in each face, above which is a boldly projecting cornice marking the roof. On this is placed an octagon two stories in height. If the lower had been broken by turrets or pinnacles at the angles, it would have added much to the effect. As it is, it seems only a makeshift to eke out the height of the whole; but the upper octagon with its boldly projecting cornice is in itself as graceful as anything of the kind in Italian architecture.

The campanile attached to the church of St. Andrea at Mantua (woodcut No. 639) is more completely Gothic both in its design and details. Its vertical

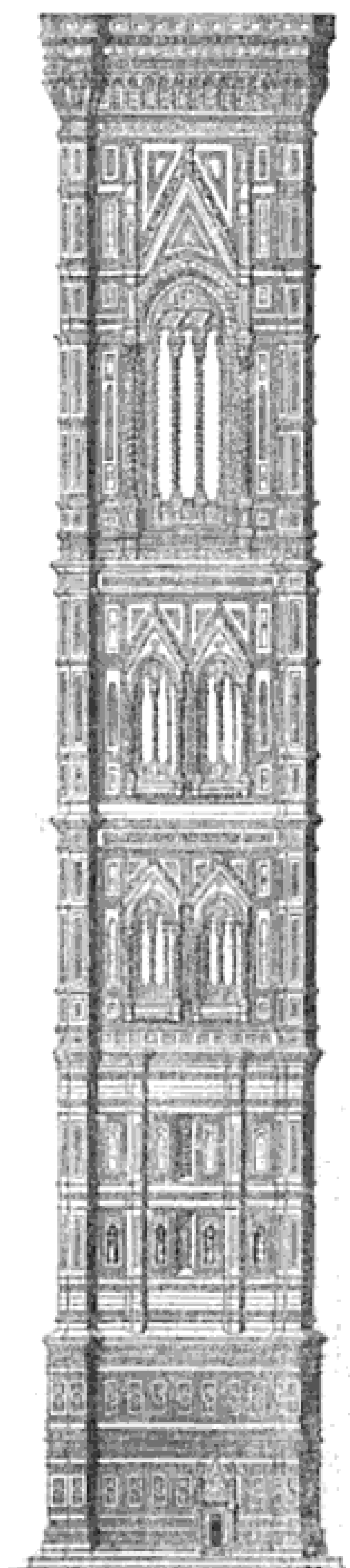


639. Campanile, S. Andrea, Mantua. From Street.

lines are strongly marked, and the string-courses and cornices are of moulded brickwork, which is a pleasing and characteristic feature in the architecture of Lombardy.

The worst part of this design is the smallness of the octagon and spire, and the unconnected mode in which they are placed on the roof of the tower.

The typical example of Italian towers is that erected close to the Duomo at Florence (woodcut No. 640) from designs by Giotto, commenced in 1324, and considerably advanced, if not nearly finished, at the time of his death two years afterwards.



640. Campanile at Florence. From Gailhabaud. Scale 50 ft. to 1 in.

Though hardly worthy of the praise that has been lavished on it, it certainly is a very beautiful building. Being covered with ornament from the base to the summit, it has not that nakedness which is the reproach of many others, and the octagonal projections at the angles give it considerable relief. Besides this, the openings are very pleasingly graduated. It is virtually solid for about one-third of its height. The middle division consists of two stories, each with two windows, while the upper part is lighted by one bold opening on each face as at Prato. All this is good. One great defect of the composition is its straightness. The slightest expansion of the base would have given it great apparent stability, which its height requires. Another fault is its being divided by too strongly marked horizontal courses into distinct stories, instead of one division falling by imperceptible degrees into the other, as in Northern towers. It has yet another defect in common with the Duomo to which it belongs: this is the false character of its ornamentation, which chiefly consists of a veneer of party-coloured slabs of marble, which, however beautiful in itself, is objectionable as not forming a part of the apparent construction.

The tower now rises to a height of 269 ft., and it was intended to have added a spire of about 90 ft. to this; but unless it had been more gracefully managed than is usual in Italy, the tower is certainly better without it. There is nothing to suggest a spire in the part already executed, nor have we any reason to believe that Giotto understood the true principles of spire building better than his contemporaries.

We may here notice the Toraccio of Cremona, though not an ecclesiastical edifice. This is a monumental tower commenced in 1296

to commemorate a peace made between Cremona and the neighbouring states after a long and tedious contest for supremacy. It partakes, therefore, like those of St. Mark's and Modena, more of the character of a civic belfry than of a church tower, such as those previously mentioned. It is the highest and largest, and consequently, according to the usual acceptation of the term, the finest, of Italian towers. Its whole height is 396 ft., about two-thirds of which is a square ungainly mass, without either design or ornament of any importance. On this is placed an octagon and spire, which, though in themselves perhaps the best specimens of their class in Italy, have very little connexion either in design or dimensions with the tower to which they are added.

PORCHES.

Another feature very characteristic of the Gothic style in Italy is to be found in the porches attached to the churches. Generally they are placed on the flanks and form side entrances, and in most instances they were added after the completion of the body of the building, and consequently seldom accord in style with it. One has already been illustrated as attached to the church at Asti (woodcut No. 623); another, belonging to the church of Sta. Maria dei Fiori at Florence, is an integral and beautiful part of the design.

One of the most characteristic specimens of the class in all Italy is that attached to the northern flank of the church of Sta. Maria Maggiore at Bergamo (woodcut No. 641). The principal archway and the doorway within it are circular in form, although built in the middle of the 14th century, and ornamented with trefoils and other details of the age. Above this are three trefoiled arches, the central one containing an equestrian statue of a certain Duke Lupus, at whose expense probably the porch was built, and above this is a little pagoda-like pavilion containing statues of the Virgin and Child.

The whole design is so unconstructive that it depends more on the iron ties that are everywhere inserted to hold it together than on any system of thrusts or counterpoises, which a true Gothic architect would certainly have applied.

The two main pillars rest on lions' backs, as is universally the case in these porches throughout Italy, though rarely found anywhere else.

Like most of these Italian porches, this one will not stand criticism as a purely architectural object, but its details are so beautiful and its colour so fascinating that it is pleasing in spite of all its defects of design, and is more characteristic of the truly native feeling shown in the treatment of the pointed style of architecture than the more ambitious examples which were erected under direct foreign influence.



641. North Porch, Sta. Maria Maggiore, Bergamo.
From Street's Brick and Marble of the Middle Ages.

Civic Buildings.

The free towns of Italy required civic buildings almost to the same extent as the contemporary examples in Belgium, though not quite of the same class. Their commerce, for instance, did not require trade-

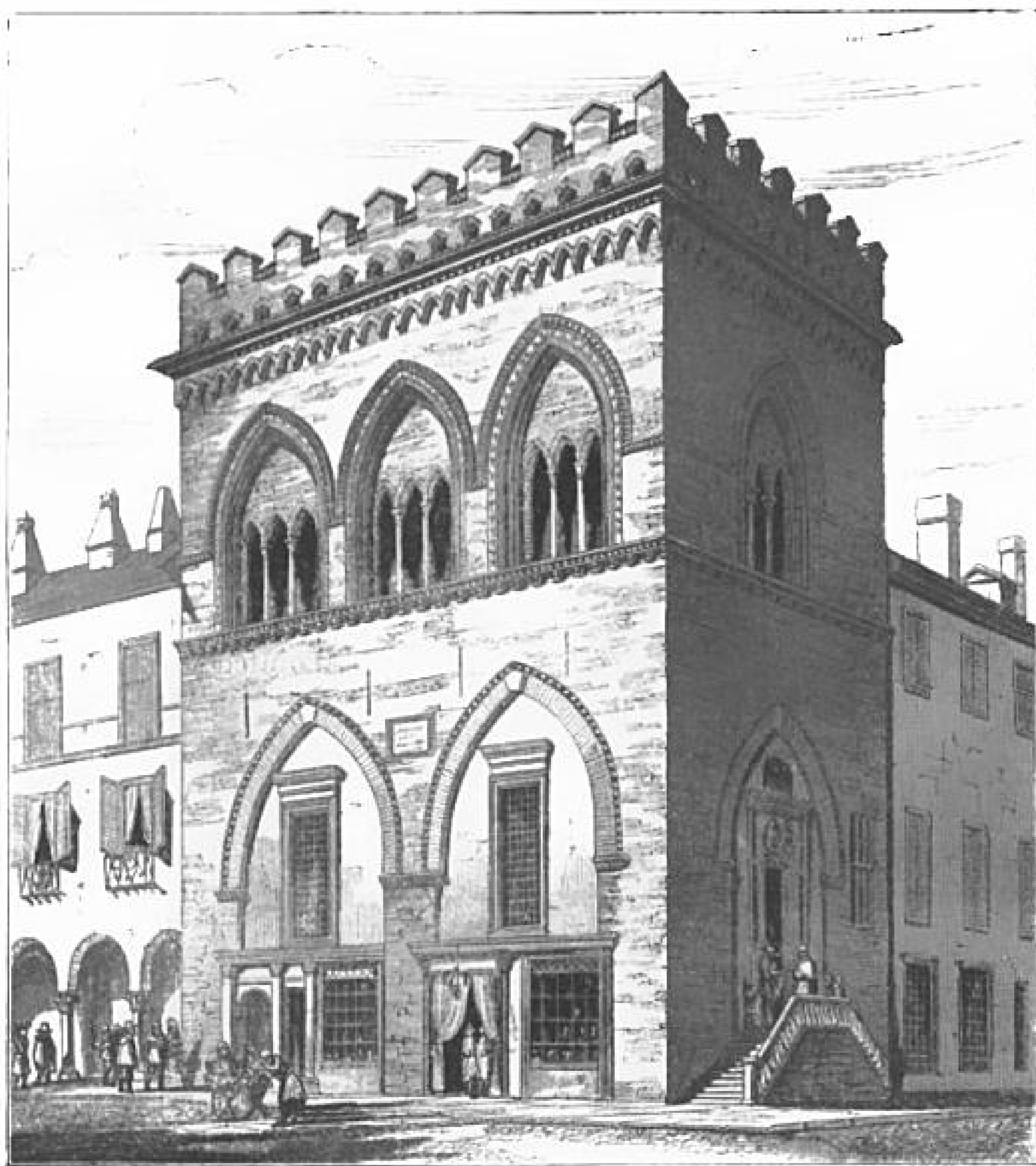
halls, but no town was without its town hall or palazzo publico and belfry. The greater intrinsic difficulty of buildings of this class, as compared with churches, has already been pointed out. It cannot therefore be expected that the Italians who failed in the easier task should have succeeded in the harder. The town hall at Sienna is perhaps the best existing example, most of the others having been so altered that it is difficult to judge of their original effect. This must be pronounced to be a very poor architectural performance, flat and unmeaning, and without any lines or style of ornament to group the windows together into one composition, so that they are mere scattered openings in the wall.

That at Perugia seems originally to have been better, but is now greatly disfigured. At Florence the Palazzo Vecchio is more of a feudal fortalice (required, it must be confessed, to keep the turbulent citizens in order) than the municipal palace of a peaceful community. In Ferrara and other cities the palazzo publico is really and virtually a fortress and nothing else.

At Piacenza it consists of a range of bold pointed stone arches, supporting an upper story of brick, adorned with a range of circular-headed windows, richly ornamented, and a pleasing specimen of the mode in which the Italians avoided the difficulty of filling the upper parts of their windows with tracery which they never liked, and at the same time rendered them ornamental externally.

At Padua and Vicenza are two great halls supported on arcades, in intention similar to that of Piacenza, but far from possessing its beauty. That at Padua remains in all its pristine ugliness, as hideous an erection as any perpetrated in the middle ages. The hall is one of the largest in Europe, measuring 240 ft. in length by 84 in width (Westminster Hall being 238 × 67), but wholly without ornament or beauty of proportion. Externally the arcades that are stuck to its sides do not relieve its mass, and are not beautiful in themselves. That at Vicenza, though originally very similar, has been fortunate in having its outside clothed in one of Palladio's most successful designs, being the only instance perhaps in which an addition of that age and style has improved a building of the Gothic period. Comparing this hall as it now stands with that at Padua, it must be admitted that the Italians were perfectly correct in abandoning their Gothic for the revived classical style, the improvement being apparent on the most cursory inspection.

A number of the town-halls or Brolettos in the smaller towns still remain unaltered, or nearly so, and retain all the peculiarities of their original design. The Palace of the Jurisconsults at Cremona for instance (woodcut No. 642) only requires its lower arcades to be again opened to present all the original features of its design, which resembles in almost every respect that of Piacenza above mentioned, except that the latter has 5 arches below and 6 windows above, instead of 2 and 3 as here shown. This building is wholly of brick, like most other civic buildings in the north of Italy. Sometimes, as at Piacenza, they are of stone below and brick in the upper stories. Sometimes, though rarely,



642. Palace of the Jurisconsults at Cremona.

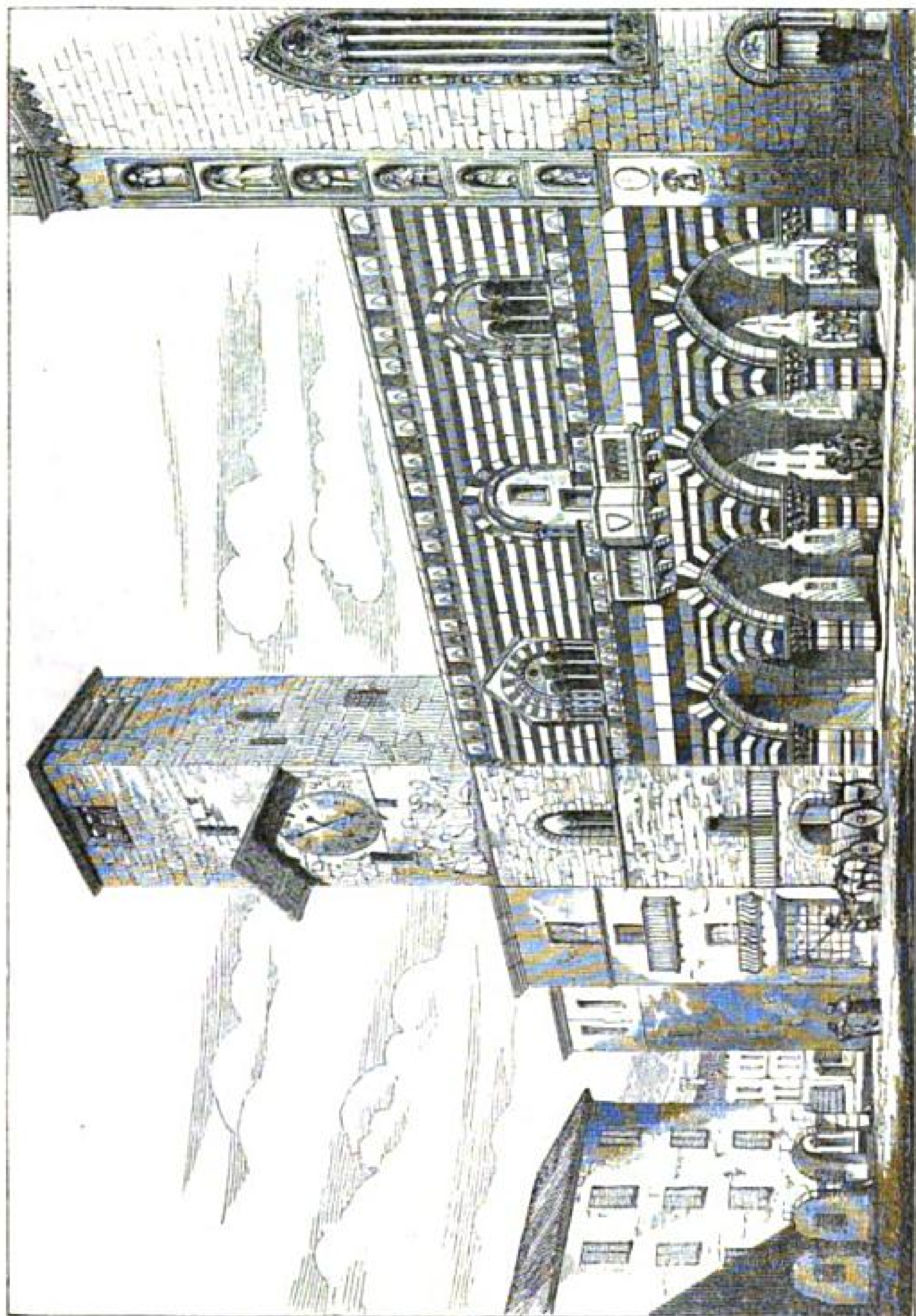
they are entirely faced with party-coloured marbles like the Broletto at Como (woodcut No. 643), which, though not extensive, is a very beautiful specimen of the best form of civic architecture of the best age in the north of Italy, and standing as it does between the cathedral on the one hand and its own rude old belfry on the other, it makes up an extremely pleasing group.[1]

One of the most important buildings of this style is the Great Hospital, Milan. It was founded in the year 1456, and consequently belongs to an age when the style was dying out. It still retains more of the pointed style and of Gothic feeling than could have been found in any city farther south, or in any one less impregnated, as it were, with German blood and feeling.

Almost all the windows in the part originally erected are pointed

[1] Similar buildings at Bergamo, Brescia, and Monza are illustrated in Mr. Street's beautiful work on the Architecture of the North of Italy, from which the two last illustrations are borrowed.

in form, and divided by mullions. Their principal ornament consists in garlands of flowers interspersed with busts and masks and figures of Cupids which surround them, or run along the string-courses of the building. The whole of these are in terra cotta, and make up a style



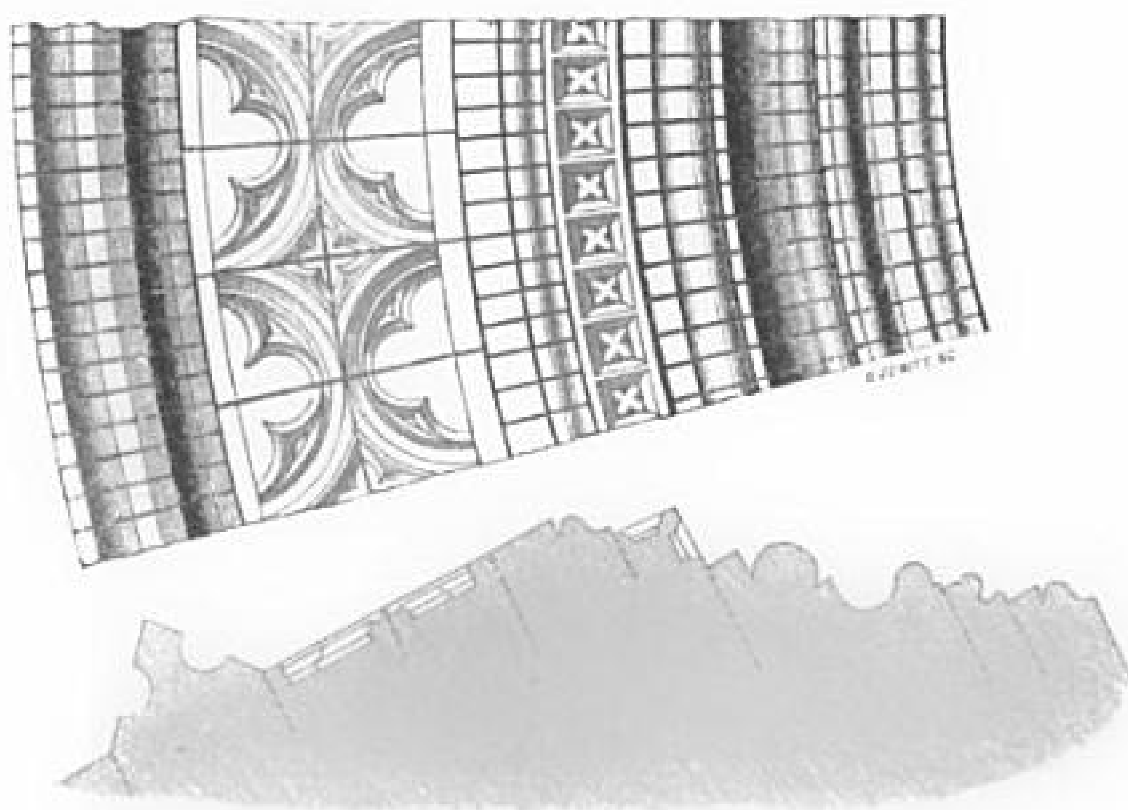
643. Broletto at Como.

of ornamentation as original as it is beautiful. It is besides purely local, and far superior to the best copies of Northern details, or to the misapplied forms of Gothic architecture which are so common in Italy.

There is perhaps nothing in the north of Italy so worthy of admi-

ration, and consequently of study, as the way in which they used moulded bricks of various kinds for the decoration especially of the civic buildings, but also occasionally in their churches. Sublimity is not perhaps to be attained in brick-work; the parts are too small; and if splendour is aimed at, it may require some larger and more costly material to produce the desired effect; but there is no beauty of detail or of design on a small scale that may not be obtained by the use of moulded bricks, and they are in themselves far more durable, and, if carefully burnt, retain their sharpness of outline longer, than most kinds of stone.

The most common way in which the Italians used this material was by repeating around their openings or along their cornices small copies of Gothic details, as in this example from a circular window in the Broletto at Brescia (woodcut No. 644). Where the details are



644. Ornamental Brickwork from the Broletto at Brescia. From Street's Work.

small and designed with taste, the effect is almost equal to stone; but where the details are themselves on a large scale, as is sometimes the case, the smallness of the materials becomes apparent. Even in this example the semi-quatrefoils of the principal band are perhaps too large for the other details, but not so much so as to be offensive.

Though not so rich, the effect is almost as pleasing where the brick is merely moulded on its edge without any very direct repetition of Gothic details, as in the upper part of the window shown in woodcut No. 645, from the cathedral of Monza. Where great depth is given so as to obtain shadow, and long tiles are used for the upper arch as was done by the Romans, an appearance of strength and solidity is given to the construction unsurpassed by that obtained in any other material.

Perhaps the most pleasing application of terra cotta ornaments is where bricks of different colours are used so as to produce by variety of pattern that relief which cannot so well be given by depth of

shadow, and which is besides a perfectly legitimate mode of ornament when so small a material is used, and when beauty only, not sublimity, is aimed at.



645. Window from the Cathedral of Monza. From Street's Work.

This is sometimes produced in Italy by introducing stone of a different colour among the bricks, as in the two examples from Verona (woodcuts Nos. 646, 647); and where this mode of ornamentation is carried throughout the building, the effect is very pleasing. It is difficult, however, to know how to proportion the two materials to one another so as to produce exactly the effect aimed at, and seldom that the objection does not present itself of too much or too little stone being used. This want of shadow in brick architecture is most felt in the cornices, where sufficient projection cannot be obtained. The defect might be easily and legitimately got over by the employment of stone in the upper members of the cornice, but this expedient seems never to have been resorted to.



646. Window from Verona.



647. Window from Verona. From Street's Work.

There are few of these brick buildings of the north of Italy which are not open to just criticism for defects of design or detail, but this

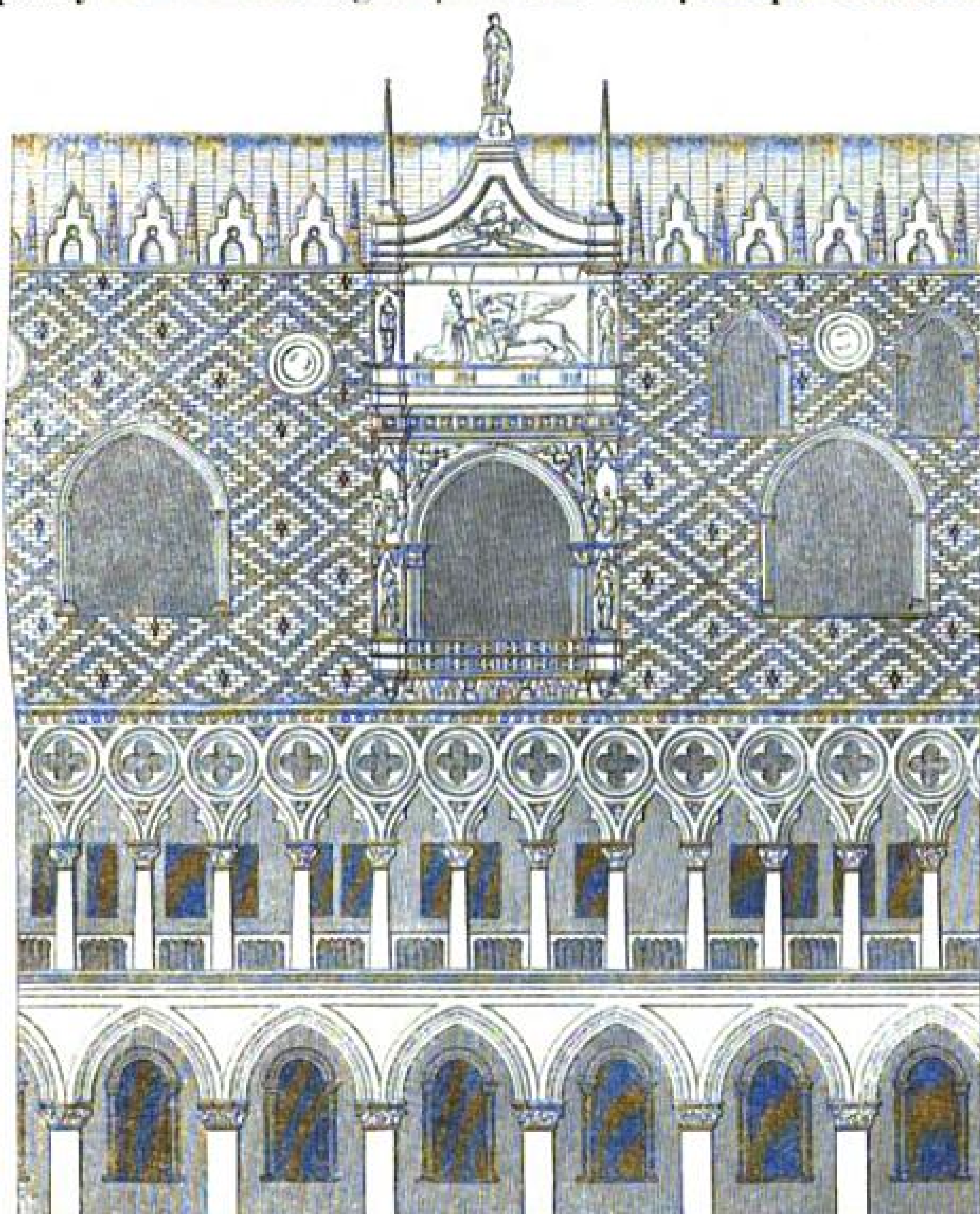
may arise from the circumstance that they all belong to an age when the Italians were using a style which was not their own, and employing ornaments of which they understood neither the origin nor the application. The defects certainly do not appear to be at all inherent in the material, and, judging from the experience of the Italians, were we to make the attempt in a proper spirit, we might create with it a style far surpassing anything we now practise.

Venice.

The most beautiful specimens of the civil and domestic architecture of Italy in the Gothic period are probably to be found in Venice, the richest and most peaceful of Italian cities during the middle ages. It is necessary to speak of the buildings of Venice, or, more correctly, of the Venetian Province, by themselves, the architecture being quite distinct both in origin and character from any other found in Northern Italy. It was not derived from the old Lombard round Gothic, but from the richer and more graceful Byzantine. True to its parentage, it partook in after ages far more of the Southern Saracenic style than of the Northern Gothic, still it cannot be classed as either Byzantine or Saracenic, but only as Gothic treated with an Eastern feeling, and enriched with many details borrowed from Eastern styles.

The largest and most prominent civic example of Venetian Gothic is of course the Doge's Palace (woodcut No. 648), a building which all the world agreed till very lately in thinking very ugly, though an attempt has recently been made to exalt it above the Parthenon, and all that was great and beautiful in Greece, Egypt, or Gothic Europe. There are indeed few buildings of which it is so difficult to judge calmly as of this, situated as it is, attached to the basilica of St. Mark's, facing the beautiful library of Sansovino, and looking on the one hand into the piazza of St. Mark's, and on the other across the water to the churches and palaces that cover the islands. It is the centre in fact of the most beautiful architectural group that adorns any city of Europe or of the world—richer than almost any other building in historical associations, and hallowed, especially to an Englishman, by the noblest poetry in the world. All this spreads a halo over and around the building, that may furnish ample excuses for those who blindly praise even its deformities. The soberer judgment of the critic must not be led astray by such feelings, and while giving credit for the picturesque situation of this building and a certain grandeur of design, must wholly condemn the execution of it. The two arcades which constitute the base are from their extent and from the beauty of their details as fine as anything of their class executed during the middle ages. There is also a just and pleasing proportion between the simple solidity of the lower, and the airy—perhaps slightly fantastic—lightness of the upper of these arcades. Had what appears to have been the original design been carried out, the building would rank high with the Alhambra and the palaces of Persia and India, but in an evil hour it was discovered that larger rooms were required for the

meetings of the council and for state occasions than were originally contemplated, and the upper wall, which was intended to stand on the back wall of the arcades, was brought forward even with the front, overpowering the part below by its ill-proportioned mass. This upper story too is far from being beautiful in itself. The windows in it are far too few, are badly spaced, squat, and ungraceful; and the introduction of smaller windows and circles mars what pretensions it might have to simplicity without relieving its plainness. Its principal ornaments are



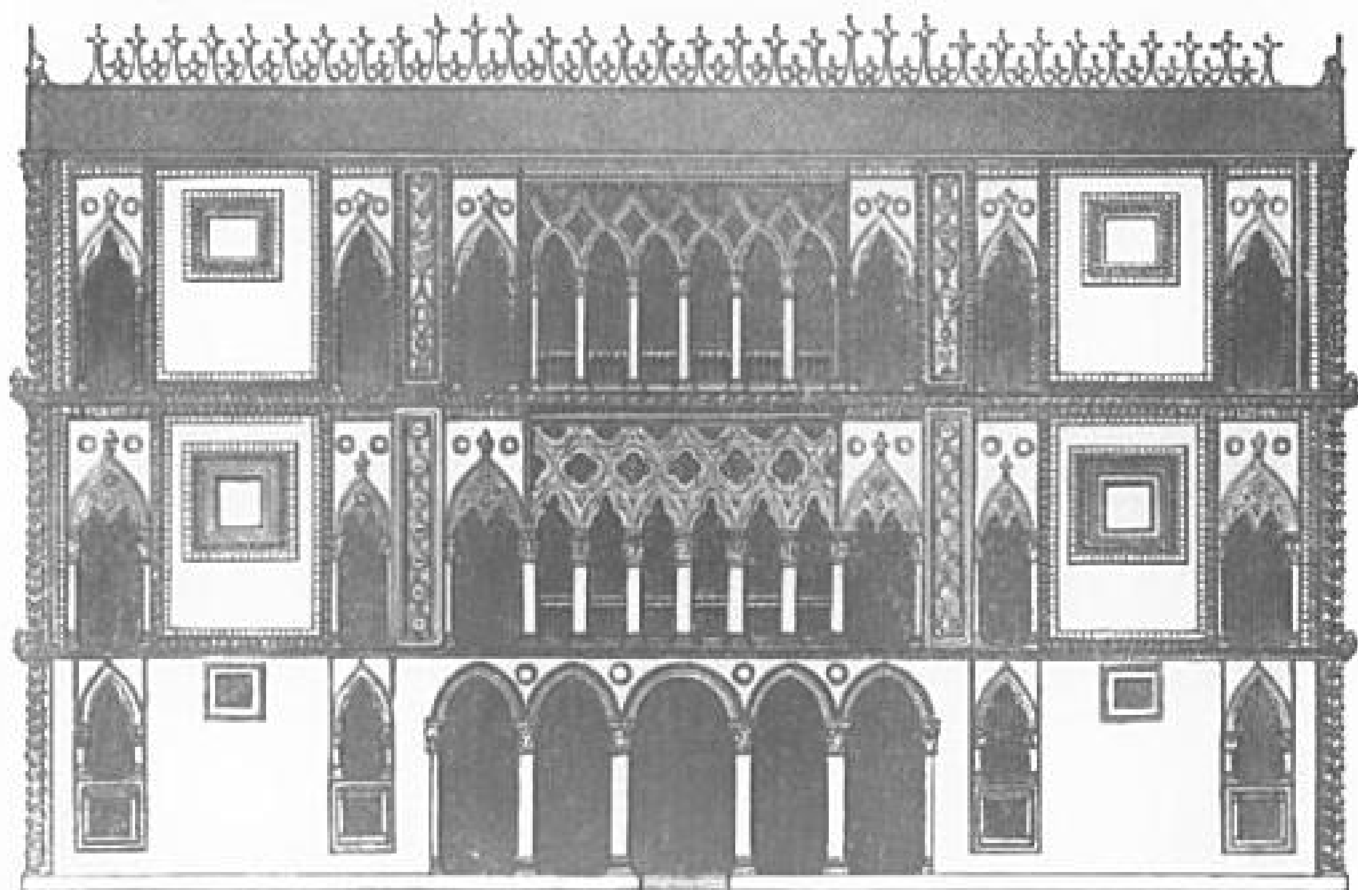
648. Central Part of the Façade of the Doge's Palace, Venice. From Cicognara.

10 20 30 40 50 feet.

two great windows, one in the centre of each face. These are not graceful objects in themselves, and having nothing in common with the others, they look too like insertions to produce an entirely satisfactory effect. The pierced parapet too is poor and flimsy, seen against the sky. Had it been placed as crowning the upper arcade, and backed by the third story, it would have been as pleasing as it is now poor. Had the upper story been set back, as was probably originally designed, or had it been placed on the ground and the arcades over it; had, in short, any arrangement of the parts been adopted but the one

that exists, this might have been a far more beautiful building than it is. One thing in this palace is worth remarking before leaving it—that almost all the beauty ascribed to its upper story arises from the polychromatic mode of decoration introduced by disposing pieces of different coloured marbles in diaper patterns. This is better done here than in Florence; inasmuch as the slabs are built into, not stuck on. The admiration which it excites is one more testimony to the fact that when a building is coloured either internally or externally, ninety-nine people in a hundred are willing to overlook all its faults, and to consider that beautiful which without the adjunct of colour they would unanimously agree in condemning.

A better specimen of the style, because erected as designed, and remaining nearly as erected, is the Cà d' Oro (woodcut No. 649), built

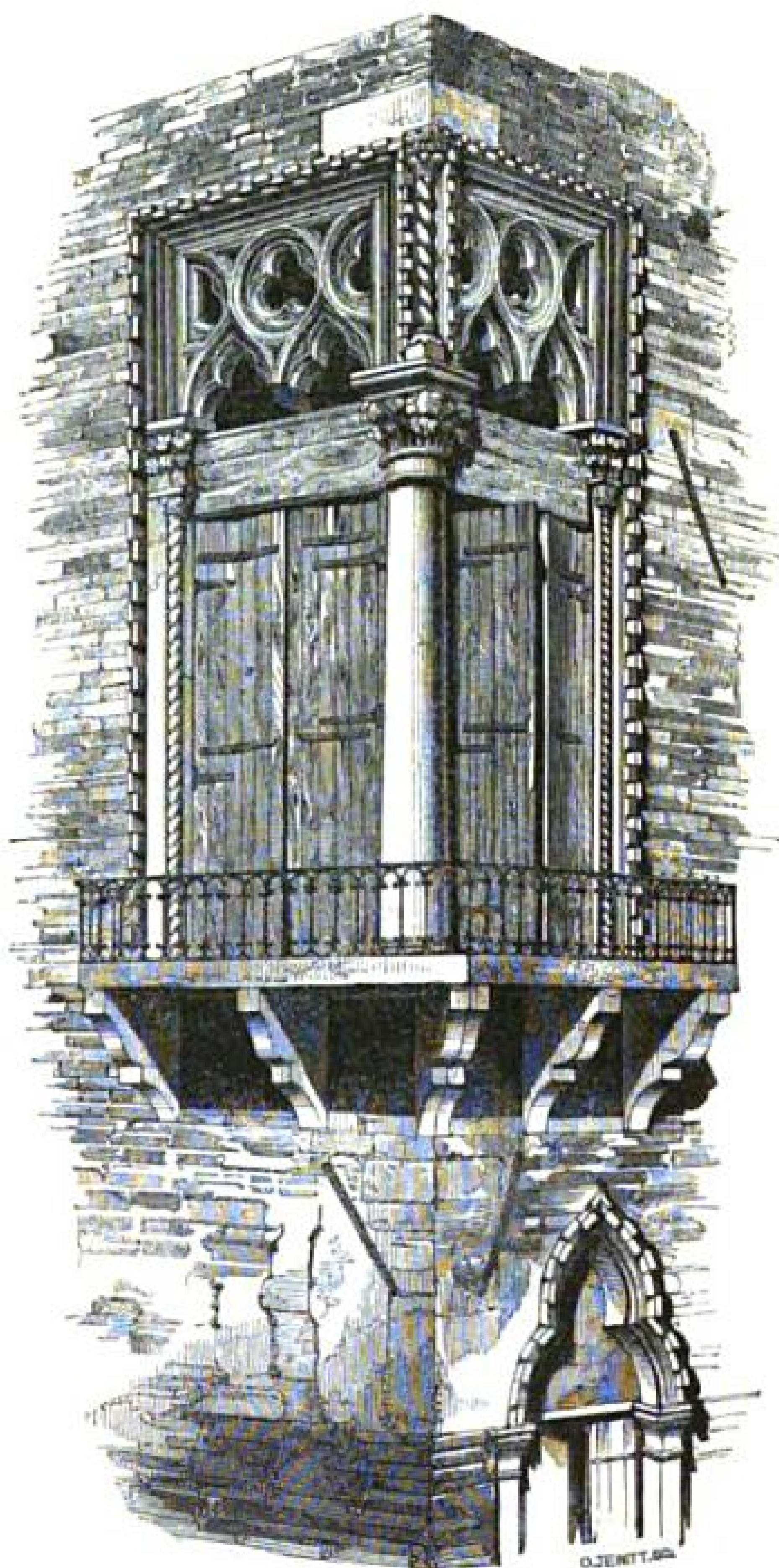


649. Cà d' Oro, Venice. From Cicognara.

about 1350, or nearly contemporary with the ducal palace. It has no trace of the high roofs or aspiring tendencies of the Northern buildings of the same age, no boldly marked buttresses in strong vertical lines, but on the contrary flat roofs and horizontal divisions pervade the design, and every part is ornamented with a fanciful richness far more characteristic of the luxurious refinement of the East than of the manlier appreciation of the higher qualities of art that distinguished the contemporary erections on this side of the Alps.

The palaces known as the Foscari and Pisani are very similar in design to that of Cà d' Oro, though less rich and less happy in the distribution of the parts; but time has lent them that colour which was an inherent part of the older design, and they are so beautiful and so interesting that it is hard to criticise even their too apparent defects as works of art. Most of the faults that strike us in the buildings of Venice arise from the defective knowledge which they betray of the constructive principles of the style. The Venetian

architects had not been brought up in the hard school of practical experience, nor thoroughly grounded in construction, as the Northern architects were by the necessities of the large buildings which they were erecting. The Venetians, on the contrary, merely culled details because they were pretty, and used them so as to be picturesque in domestic edifices, where construction was a very secondary consideration, and convenience everything. For instance, the window here shown (woodcut No. 650) must give to the building to which it is attached an appearance of weakness and insecurity quite inexcusable in spite of its picturesqueness externally, and its convenience with reference to the interior.



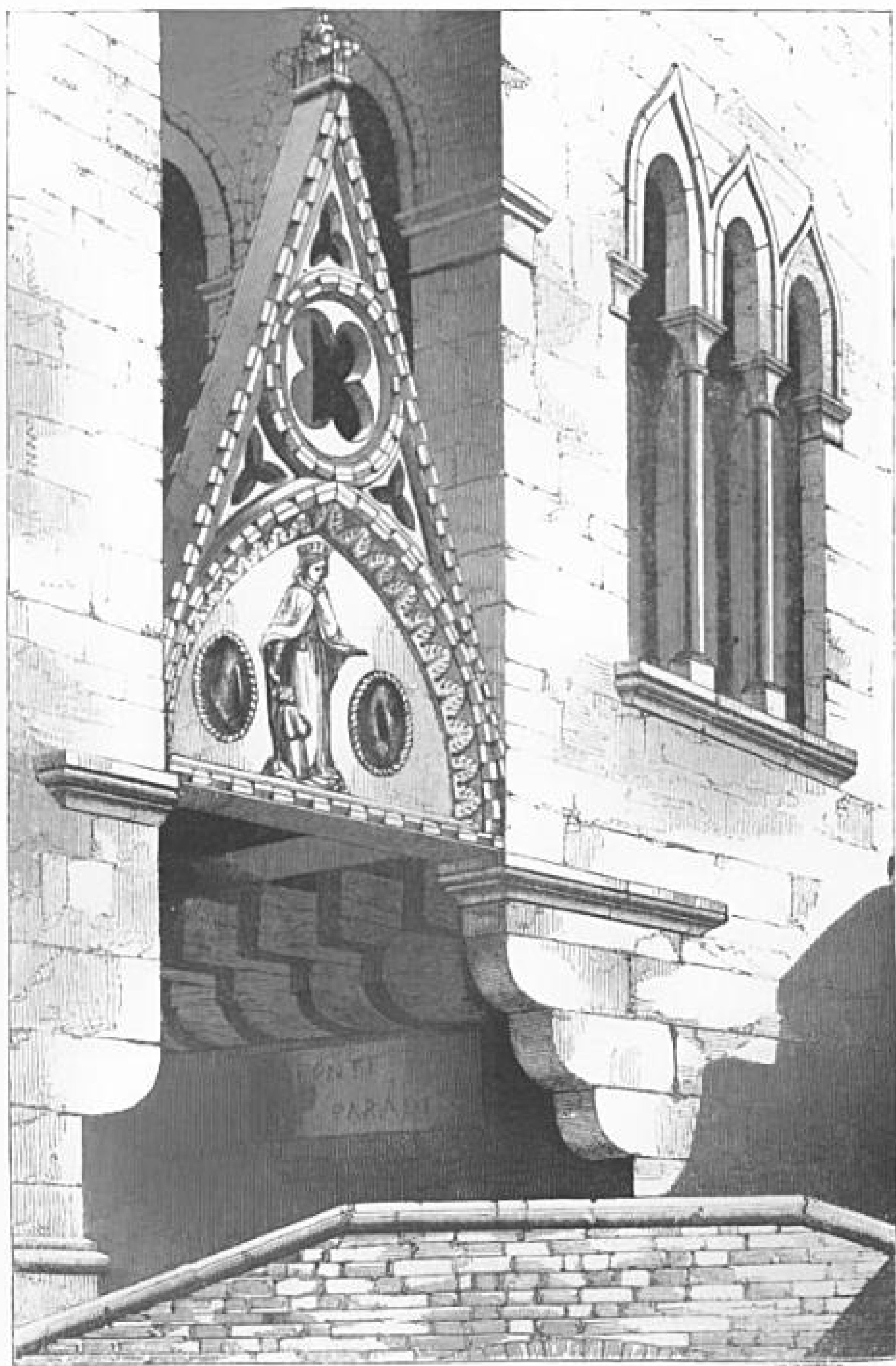
650. Angle Window at Venice. From Street.

The same remark applies to the screen (woodcut No. 651) above the Ponte del Paradiso, which, though useless and unconstructive to the last degree, by its picturesque design and elegant details arrests all travellers, and it is impossible to see without admiring it, though, if imitated elsewhere, or copied in another place, it could hardly be saved from being ridiculous.

Like the last example it is surrounded by a curious dental moulding which is peculiar to Venice, and which, though scarcely ever found elsewhere, is hardly ever omitted round any of the arches of the churches or private buildings of this city during the pointed Gothic period.

There are besides these many smaller palaces and houses of the Gothic age, all more or less beautiful, and all presenting some detail or some happy arrangement well worthy of study, and in general more refined and more beautiful than is to be found in the rude but picturesque dwellings of the burghers of Bruges or Nuremberg.

The mixed Gothic style which we have been describing appears to have exerted a considerable effect on the subsequent palatial architecture of Venice. The arrangement of the façades remained nearly the same down to a very late period; and even when the so-called return to classical forms took place, many details of the previous style were here retained, which was not the case in any other part of Europe.



651. Ponte del Paradiso, Venice. From Street.

CHAPTER III.

NAPLES AND APULIA.

CONTENTS.

Buildings in Naples, Amalfi, &c. — San Nicola, Bari — Cathedrals of Bittonto, Matera, and Trani — Churches at Brindisi — General remarks.

CHRONOLOGY.

	DATES.		DATES.
The Normans enter Italy	A.D. 1018	William II., surnamed the Good	A.D. 1166
—— Conquer Apulia from the Greeks	1043	Tancred	1189
—— Attack the Saracens in Sicily	1061	Frederic Hohenstaufen of Germany	1197
Conquest of Sicily completed by Roger de Hauteville	1090	Conrad	1250
Roger II.	1101	Conradin	1254
William I., surnamed the Wicked	1153	Charles I., first Angiovine King of Naples	1266
		René, last Angiovine King of Naples	1435

VERY little is known of the mediæval architecture of the kingdom of Naples, though it can hardly be doubted, from the wealth and importance of many of the cities within its limits in the middle ages, that a considerable number of churches must have been erected during that period, many of which must still remain. The extent and interest of the classical remains in this district are so great that the Christian antiquities have hitherto been very much overlooked, but their examination would well reward the trouble of any one who would undertake the task.

The prosperity and population of the capital have increased so immensely since the Gothic period, that all the churches there have either been rebuilt or so altered as to present few features of interest now. Many possess fragments of the pointed style of France, which was introduced by the house of Anjou. It is, however, even more essentially a foreign introduction here than the Tedesco of the north of Italy, and used by a people who understood neither its principles nor their application. It presents few features worthy of study or admiration.

On the south side of the bay, the cathedrals of Amalfi and Ravello still retain parts of their original structures sufficient to show what they originally were, and to make us regret the alterations which have so completely destroyed the general effect of their rich and varied architecture. Their style may be characterised as Romanesque, with a considerable admixture of Greek elegance of ornament and of Saracenic richness in colouring—a combination which, especially in that climate, is productive of the highest class of architectural beauty.

The frequent earthquakes of Calabria have destroyed nearly all the monuments not only of the Normans, but of the previous centuries, in

that rich and important province; and nothing now remains of the Norman capital of Mileto but the massive foundations of the churches and palaces, with a few fragments of columns, and the sarcophagi which are said to have contained the remains of Count Roger of Sicily and of his wife Eremberga.

The eastern province of Apulia[1] seems to have escaped, to a great extent, the two ecclesiological evils of over-population and of earthquakes, and consequently retains many buildings of very great interest. During the whole period which elapsed from the time of Justinian nearly to the Norman conquest, Apulia seems to have shared in all the troubles that oppressed Italy in the dark ages. Under the successive rule of the Gothic kings of Ravenna, the Lombard dukes of Benevento, the German Othos, and of the Greek emperors of Constantinople, she had little time for cultivating the arts of peace. Her greatest misfortunes arose from the ravages of the Saracens in the 9th century. They never settled, to any extent, within her boundaries, but burnt and destroyed her cities, and plundered everything within their reach. On their expulsion, in the beginning of the 10th century, she enjoyed her first period of repose and prosperity under the Greek Catapani till the time of the Norman invasion in the beginning of the 11th; and it was probably during this period that the cathedral at Matera and others of the older churches were erected, though by far the greater number of those now found in the province belong to the age of the Norman and Angiovine dynasties.

It is by no means clear whether any churches more ancient than the Saracenic invasion still remain. Many of course did exist in the interior which could not have been destroyed by these conquerors, and they may consequently still be found when looked for. At all events their influence is felt in those which succeeded, as the style of Apulia is remarkably local in its character, and must have grown up in the province where it is found.

One of the most important and best known churches in this province is that of San Nicola at Bari, founded in 1087, at which time the relics of its patron saint were brought from Myra in Lycia. It was dedicated in 1103.

Internally the church is divided into three aisles by screens of columns of singularly classical design. The side aisles are vaulted. The central aisle is spanned at irregular intervals by great arches, which seem to have supported the roof in some manner not now easily intelligible in consequence of alterations which have destroyed its effect to a considerable extent.

Externally it remains nearly perfect, and its western entrance (woodcut No. 652) is a highly characteristic example of the style. The doorway is flanked by two elegant pillars, very similar to those

[1] The three woodcuts, and nearly all the information contained in this chapter, were kindly furnished by Mr. A. J. Roberts Gawen, who is one of the very few persons who have made a special study of Apulian art. There is also a very beautiful work by the Duc de Luynes, entitled 'Recherches sur l'Histoire des Normands et de la Maison de Souabe dans la Pouille.'

at Alet (woodcut No. 476), which here support the usual Italian hood. These pillars rest on monsters more important and more conventional than any found in similar situations in the north of Italy. On either side of the doorway are two pillars borrowed from some classical building, and used merely as ornaments.

Another doorway almost equally beautiful adorns the southern front, near its eastern end. Though less ornamented outside, it is so deep as to contain a canopied tomb of very rich and elaborate workmanship.

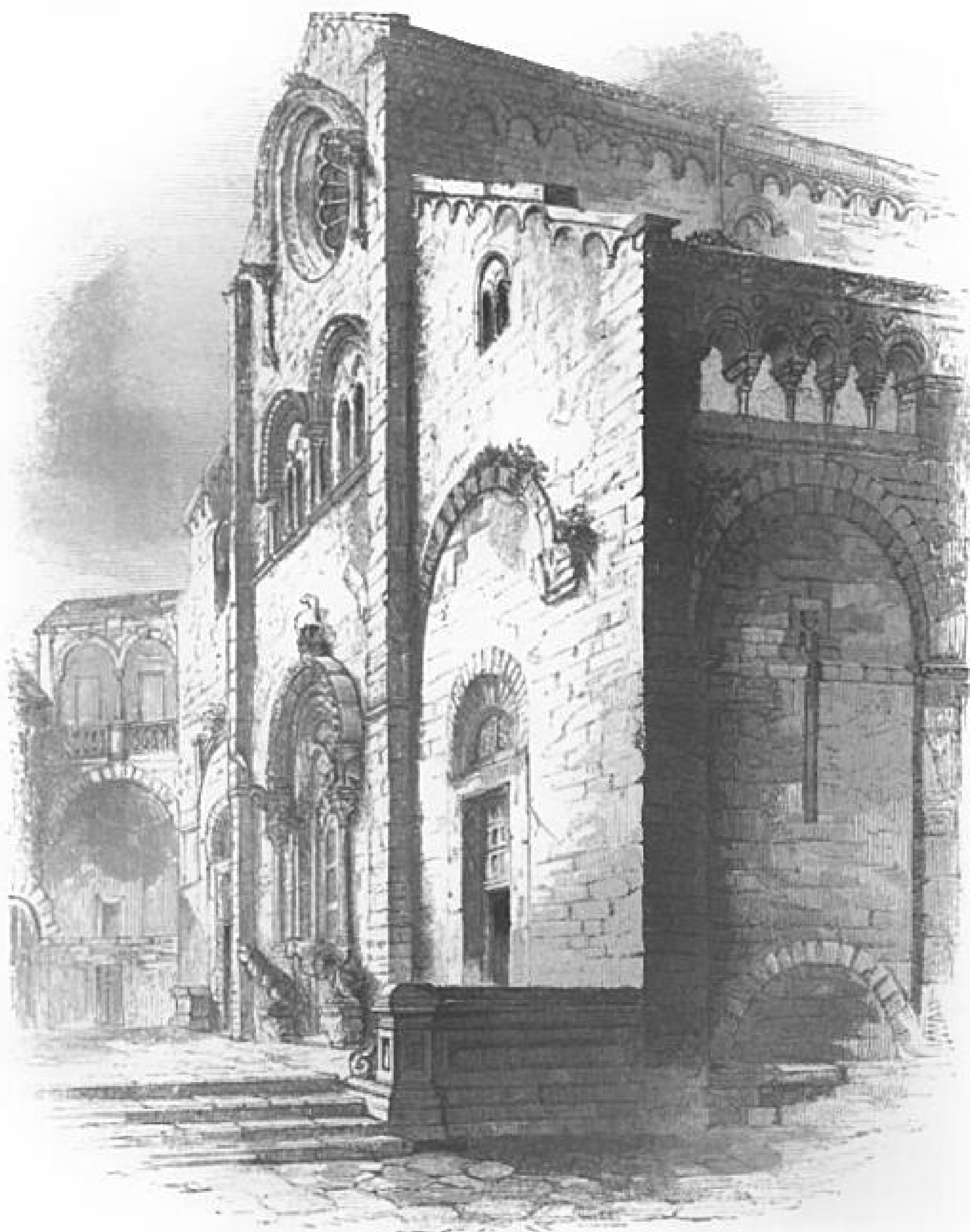
The east end is flat and square externally, the space between the circular apse internally and the square angles being occupied by the sacristies.

The cathedral at Bari is a church of earlier date than that of San



652. West front of the Church of San Nicola in Bari. From a sketch by A. J. R. Gawen, Esq.

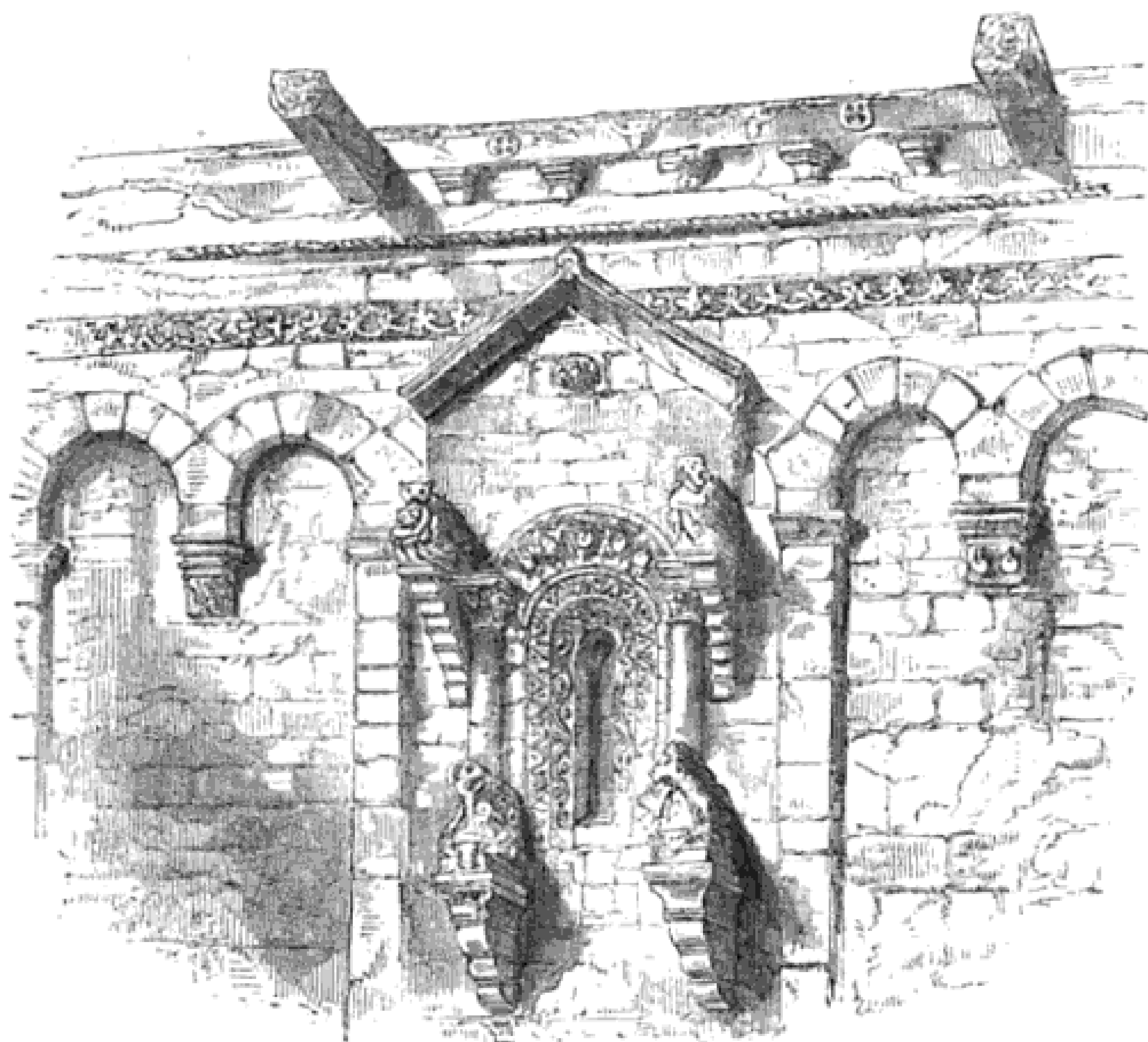
Nicola, but, having been destroyed by the Saracens, was rebuilt and dedicated anew in 1171. It is of rather larger dimensions than San Nicola; like it, the eastern end is flat externally, with one very richly ornamented window in the centre with pillars supported on elephants. This end is flanked by two towers of very elegant form and detail, and nearly 200 ft. in height, between which is a small cupola of Byzantine design on the intersection of the nave and transepts. It has been a good deal altered internally and also on its principal façades, and has consequently attracted much less attention than it deserves.



653. West front of Cathedral Church of Bittonto. A. J. R. G. del.

The apse of a small chapel of the same age as San Nicola is shown on the left of the last woodcut, and many other fragments of the same age exist in the town, but none so important as those described above.

The cathedral at Bittonto is even richer and more ornate than the two churches at Bari. Like them, it is a three-aisled basilica with a square east end, with the same peculiar ornament of two windows with pillars supported by elephants. Its west front (woodcut No. 653) may be taken as the type of almost all those of this province. Over the richly-sculptured porch are two windows filled with an imperfect kind of tracery, and above these a circular window of rich design surmounted by a very ornamental hood. The same arrangement on about the same scale occurs at Bari, Altamura, and Ruvo; and on a somewhat smaller scale in the churches of Gallatina, Brindisi, and Barletta. The great and peculiar beauty of the cathedral at Bittonto is its south front, one angle of which is shown in the last woodcut; but it becomes richer towards the east, where it is adorned with a portal of great magnificence and beauty. The richness of its open gallery under what was the roof of the side aisles is unsurpassed in Apulia, and probably by anything of the same kind in Italy.



654. Window in the south side of the Cathedral Church in Matera. A. J. R. G. del.

The cathedral church at Matera is of almost equal importance with those just mentioned, with this peculiarity, that its west front is plain and unimportant, and all the decoration has been lavished on its south front, which faces the piazza. There are two entrances on this face, that towards the east being as usual the richest. Above these are a range of richly-ornamented windows, and a little out of the centre is

one far more splendid than the others (woodcut No. 654), from which it is said that letters and rescripts from the Greek patriarch at Constantinople used to be read. It is perhaps as elaborate a specimen of the mode of decoration used in these churches as can be found in the province.

The age of this church is probably about the year 1000, and consequently anterior to the Norman conquest. Its dimensions are 180 ft. long by 60 in width. Its campanile is 175 ft. in height. Though perhaps richer in decoration, it appears to be smaller than most other cathedral churches in the province.

The cathedral church at Trani seems to be larger and more important than those mentioned above, and possesses a campanile seven stories in height, the upper being an octagon surmounted by a low spire; it is apparently the loftiest in the province. The most interesting features about this church are the doors of bronze that ornament its principal portal. These were made in 1160, and either for beauty of design or for the exuberance and elegance of their ornaments are unsurpassed by anything of the kind in Italy, or probably in any part of the world. There is another pair of doors of almost equal beauty belonging to the cathedral at Troja, made in 1119, and a third, which are still in a very perfect state, which were constructed at Constantinople in the year 1076 for the church of Monte San Angelo: they are consequently contemporary with those of Sta. Sophia, Novogorod, and those of San Zenone, Verona, and so similar in design as to form an interesting series for comparison.

Other churches in the same style as those mentioned above are found at Canosa, Giovenazzo, Molo, Ostuni, Manduria, and other places in the province. Those of Brindisi, from which we should be inclined to expect most, have been too much modernised to be of value as examples; but there is in this town a small circular church of great beauty, built apparently by the Knights Templars, and afterwards possessed by the Knights of St. John. It is now in ruins, but many of the frescos that once adorned its walls still remain, as well as the marble pillars that supported its roof. Being at some distance from the harbour, the Knights of St. John built another small church near the port, which still remains nearly unaltered.

Attached to the church at Canosa externally is a small but interesting tomb-house, erected to the memory of Bohemond by his mother shortly after his death. It is singularly classical in detail, and consists of a small square apartment surmounted by an octagonal cupola. Its bronze doors, though small, are very elaborate, and show strong traces of Arabic taste, which is not found in any other example in the province.

About a mile out of Brindisi is found the small convent chapel of Sta. Maria del Casale, of a considerably more modern date than any of those mentioned above, having been built in the first half of the 14th century, by Philip Prince of Taranto, brother of Charles II. of Anjou. The hood over its principal doorway is slightly pointed; one of the few examples of this form in Apulia. It is supported by bold stone

brackets let into the wall, instead of the rich columns resting on the backs of lions and monsters usual in this part of Italy; and altogether shows much more resemblance to the pointed architecture of the north of Italy than almost any other church in Apulia.

The House of Swabia seem to have destroyed more churches than they built, but they have left several important castles and palaces which are well worthy of study. That of Lucera is perhaps the most extensive, but the Castel del Monte, built by Frederic II., is the most beautiful, and as a specimen of the Pointed style as applied to civil buildings is quite equal to anything else found anywhere in Italy.

The style of architecture which most resembles that used in Apulia is the one we find prevailing in the valley of the Po during the 12th and the early part of the 13th centuries; but we miss entirely in the south the reed-like pilasters which formed so favourite a mode of decoration in Verona and elsewhere; we miss also the figured sculpture which everywhere adorned the northern portals and façades. The Greek iconoclastic feeling prevailed to such an extent in the south as entirely to prevent the introduction of the human form, either in bas-reliefs or in single figures; but the architects indemnified themselves for this by the introduction of lions, elephants, and monsters of all sorts, to an extent found nowhere else, and by the lavish employment of sculptured foliage and richly-carved frets and mouldings, and a bold system of bracketing, which gave to the style as much richness as can be desired, often combined with great beauty of detail.

We miss also in this province the pointed arch which the Saracenic architects introduced so currently into the contemporary churches in Sicily. Though forming part of the same kingdom during the Norman period, there is very little in Apulia that betrays the influence of the Saracenic style. The only striking example apparently is the crypt of San Nicola at Bari, which probably was adorned by workmen sent from Palermo for the purpose, and who introduced there the same style which they had employed under the same masters in the palaces of La Cuba and La Ziza, or the royal churches of Monreale and Palermo.

Strictly speaking, the style of Apulia may be called Romanesque carried out with a strong admixture of Greek or Byzantine feeling in the details, but still retaining its local and Italian character more essentially perhaps than any other of the styles which prevailed in Italy during the middle ages.

CHAPTER IV.

SICILY.

CONTENTS.

There are few, at least among the shorter chapters of architectural history, more interesting, in various ways, than that which treats of the introduction of the pointed-arched style into Sicily, and of its peculiar development there. Its whole history is so easily understood, the style itself so distinct from that of any other branch, and at the same time so intrinsically beautiful, that it is of all the divisions of the subject the one best suited for a monography, and so it seems to have been considered by many—Hittorff and Zanth, the Duke of Serra di Falco, and our own Gally Knight having chosen it for special illustration, so that in fact there are few European styles of which we have more complete knowledge. Many of the points of its history are nevertheless still subjects of controversy, not from any inherent obscurity on the subject, but because it has been attempted to apply to it the rules and theories derived from the history of Northern art.

The fact is, the map of Sicily tells its whole history; its position and form reveal nearly all that is required to be known of the races that inhabited it, and of their fate. Situated in the centre of the Mediterranean Sea, of a nearly regular triangular form, and presenting one side to Greece, another to Africa, and a third to Italy, the length of these coasts, and the relative distance from the opposite shores, are nearly correct indexes of the influence each has had on the civilization of the island.

In a former chapter[1] it was shown how strong was the influence of Dorian Greece in Sicily. Almost all the ancient architectural remains belong to that people. The Carthaginians, who succeeded the Greeks, have left but slight traces of humanising influence; and the rule of the Romans was that of conquerors, oppressive and destructive of the civilization of the people. After the Christian era a very similar succession of influences took place. First and most powerful was the Byzantine element, which forms the groundwork and the main ingredient in all that follows. To this succeeded the Saracenic epoch: bright, brilliant, but evanescent. In the 11th century the Italian element re-

[1] P. 264.

sumed its sway under the banner of a few Norman adventurers, and in the guise of a Norman conquest; and sacerdotal Rome regained the inheritance of her imperial predecessor. In the Christian period, however, the elements were far from being so distinct as on the previous occasion, for reasons easily understood. Every fresh race of masters found the island already occupied by a very numerous population of extremely various origin. The new-comers could do no more than add their own forms of art to those previously in use, the consequence being in every case a mixed style containing elements derived from every portion of the inhabitants.

We have now no means of knowing what the exact form of the Byzantine churches of Sicily was before the Arab invasion. All have perished, or at least are undescribed. The Saracenic remains, too, have all disappeared, those buildings generally supposed to be relics of their rule being now proved to have been erected by Moorish workmen for their Christian masters. With the Norman sway a style arose which goes far to supply all these deficiencies, being Greek in essence, Roman in form, and Saracenic in decoration; and these elements mixed in exactly those proportions which we should expect. Nowhere do we find the square forms covered by domes of the Greek Church, nor one suited to the Greek ritual. These have given place to the Roman basilica, and the arrangement adapted to the rites of the Romish Church; but all the work was performed by Greek artists, and the Roman outline was filled up and decorated to suit the taste and conciliate the feelings of the worshippers, who were conquered Greeks or converted Moors. Their fancy, too, as richer and happier than that of the ruder races of the West, was allowed full play. An Eastern exuberance in designing details, and taste in applying colours, is here exhibited, cramped a little, it must be confessed, by the architectural form and the ritual arrangements to which it is applied, but still a ruling and beautifying principle throughout.

Among all these elements, those who are familiar with architectural history will hardly look for anything indicative of purely Norman taste or feelings. A mere handful of military adventurers, they conquered as soldiers of Rome and for her aggrandisement, and held the fief for her advantage: they could have brought no arts even if their country had then possessed any. They were content that their newly-acquired subjects should erect for them palaces after the beautiful fashion of the country, and that Roman priests should direct the building of churches suited to their forms, but built as the Sicilians had been accustomed to build, and decorated, as they could decorate them, better than their masters and conquerors.

All this, when properly understood, lends an interest to the history of this little branch of architecture, wholly independent of its artistic merit; but even the art itself is so beautiful and so instructive, from its being one of the styles where polychromy was universally employed and is still preserved, that notwithstanding all that has been done, it still merits more attention than has yet been bestowed upon it.

It is extremely difficult, in a limited space, to give a clear account

of the Sicilian pointed style, owing to the fusion of the three styles of which it is composed being far from complete or simultaneous over the whole island, and there being no one edifice in which all three are mixed in anything like equal proportions. Each division of the island, in fact, retains a predilection for that style which characterised the majority of its inhabitants. Thus Messina and the northern coast as far as Cefalu remained Italian in the main, and the churches there have only the smallest possible admixture of either Greek or Saracenic work. The old parts of the Nunziatella at Messina might be found at Pisa, while the cathedral of this town, and that at Cefalu, would hardly be out of place in Apulia, except indeed that the last-named cathedral displays a certain early predilection for pointed arches, and something of Greek feeling in the decoration of the choir.

In like manner in Syracuse and the southern angle of the island, the Greek feeling prevails almost to the exclusion of the other two. In Palermo, on the other hand, and the western parts, the architecture is so remarkably Saracenic that hardly any antiquarian has yet been able to make up his mind to admit the possibility of such buildings as the Cuba and Ziza having been erected by the Norman kings. There is, however, little or no doubt that the latter was erected by William I. (1154–1169), and the other about the same time, though by whom is not quite so clear. Both these buildings were erected after a century of Norman dominion in the island: still the Moorish in-

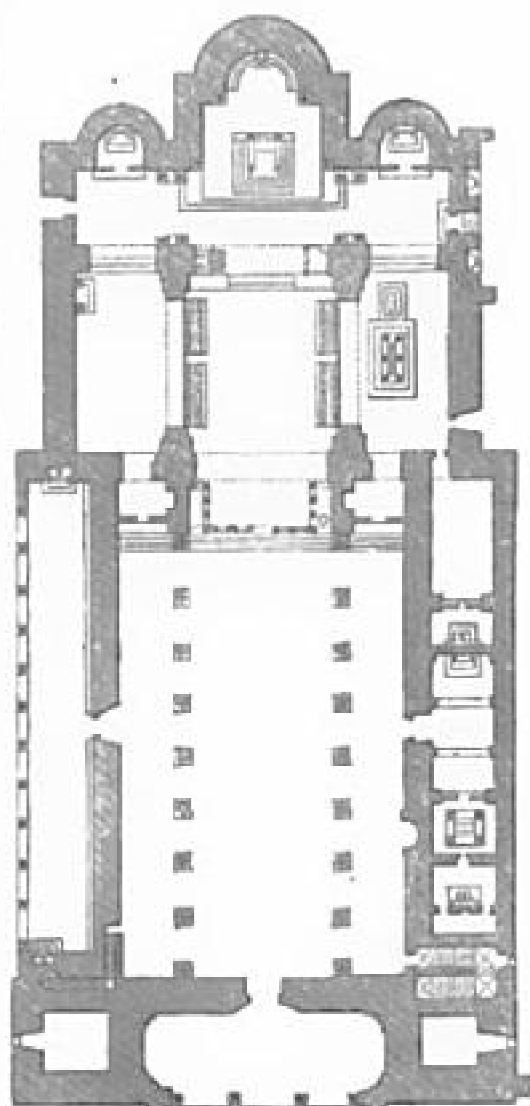


655 San Giovanni degli Eremiti, Palermo. From Gally Knight's Normans in Sicily.

fluence, here so predominant, is not a subject of wonder when we consider the immeasurable superiority of that people in art and civilization, not only to their new rulers, but to all the other inhabitants. It was therefore only natural that they should be employed to provide for the Norman Counts such buildings as they only had the art to erect or adorn.

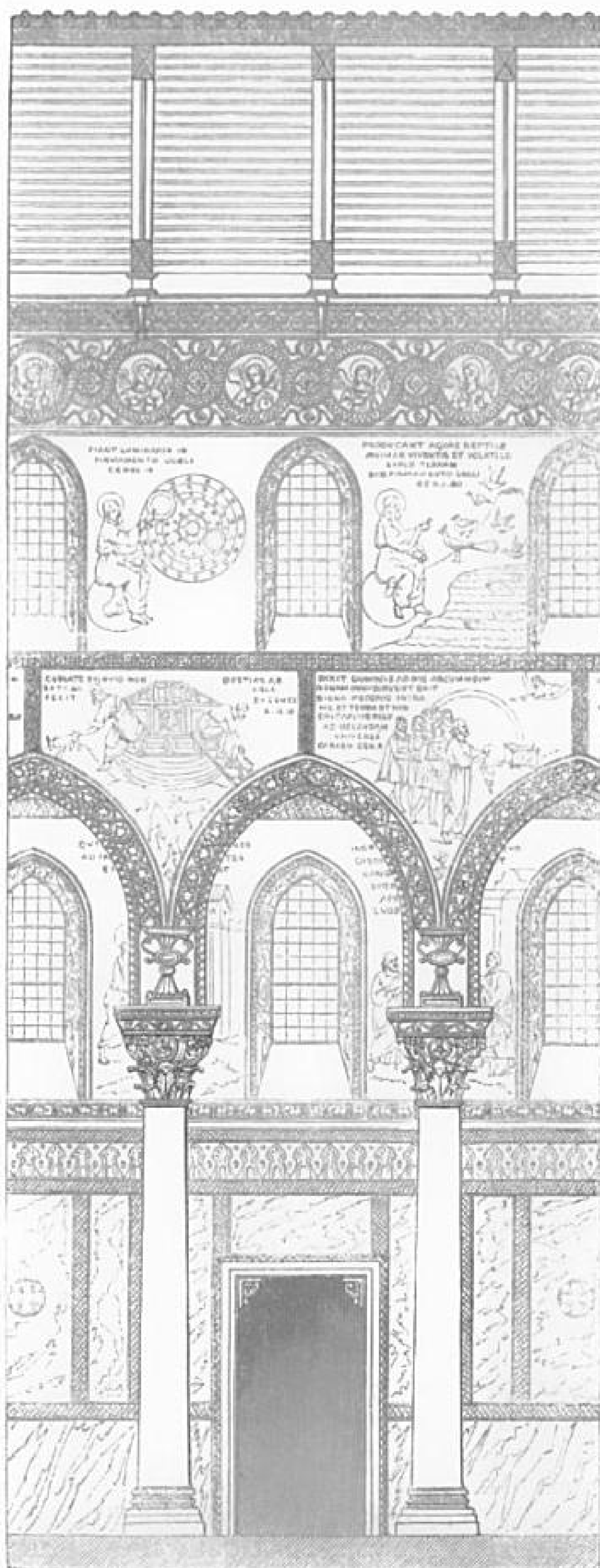
A still more remarkable instance of the prevalence of Saracenic ideas is represented in woodcut No. 655, being the Church of San Giovanni degli Eremiti at Palermo. Here we find a building erected beyond all doubt as late as the year 1132, by King Roger, for the purposes of Christian worship, which would in no respect be out of place as a mosque in the streets of Delhi or Cairo, except in the form of its tower. In fact, were we guided by architectural considerations alone, this church would have more properly been included in the subject of Saracenic, not of Christian architecture.

There are three other churches of Palermo which exhibit the new mixed style in all its completeness. These are the Martorana (1113–1139), in which the Greek element prevails somewhat to the exclusion of the other two; the Capella Palatina in the Palace, built in 1132; and the more magnificent church of Monreale, near Palermo (woodcut No. 656), begun in 1174, and certainly the finest and most beautiful of all the buildings erected by the Normans in this country. This church is 315 ft. in its extreme length; while the beautiful gem-like chapel of the royal palace is much smaller, being only 125 ft. long, and consequently inferior in grandeur, but in the relative proportions of its parts, and in all other essential points, very similar.



656. Plan of Church at Monreale. From Hittorff and Zanth. Scale 100 ft. to 1 in.

In arrangement and dimensions the cathedral of Monreale very much resembles that at Messina, showing the same general influence in both; but all the details of the Palermitan example betray that admixture of Greek and Saracenic feeling which is the peculiarity of Sicilian architecture. There is scarcely one single form or detail in the whole building which can strictly be called Gothic, or which points to any connexion with Northern arts or races. The plan of this, as of all the Sicilian churches, is that of a Roman basilica, far more than of a Gothic church. In all these churches no vault was ever either built or intended. The central is divided from the side aisles by pillars of a single stone, generally borrowed from ancient temples, but, in this instance at least, with capitals of great beauty,



657. Portion of the Nave, Monreale. From Hittorff and Zanth.

suited to their form and to the load they have to support. The pier-arches are pointed, but not Gothic, having no successive planes of decoration, but merely square masses of masonry stilting arches of equally simple form. The windows, too, though pointed, are undivided, and evidently never meant for painted glass. The roofs of the nave are generally of open framing, like those of the basilicas, ornamented in Saracenic taste. The aisles, the intersection of the transepts and nave, and the first division of the sanctuary are generally richer, and consequently more truly Moorish. The apse again is Roman. Taken altogether, it is only the accident of the pointed arch having been borrowed from the Moors that has led to the idea of a Gothic feeling existing in these edifices. It does exist at Messina and Cefalu, but here is almost wholly wanting.

It is evident that all the architectural features in the buildings of which the cathedral of Mon-

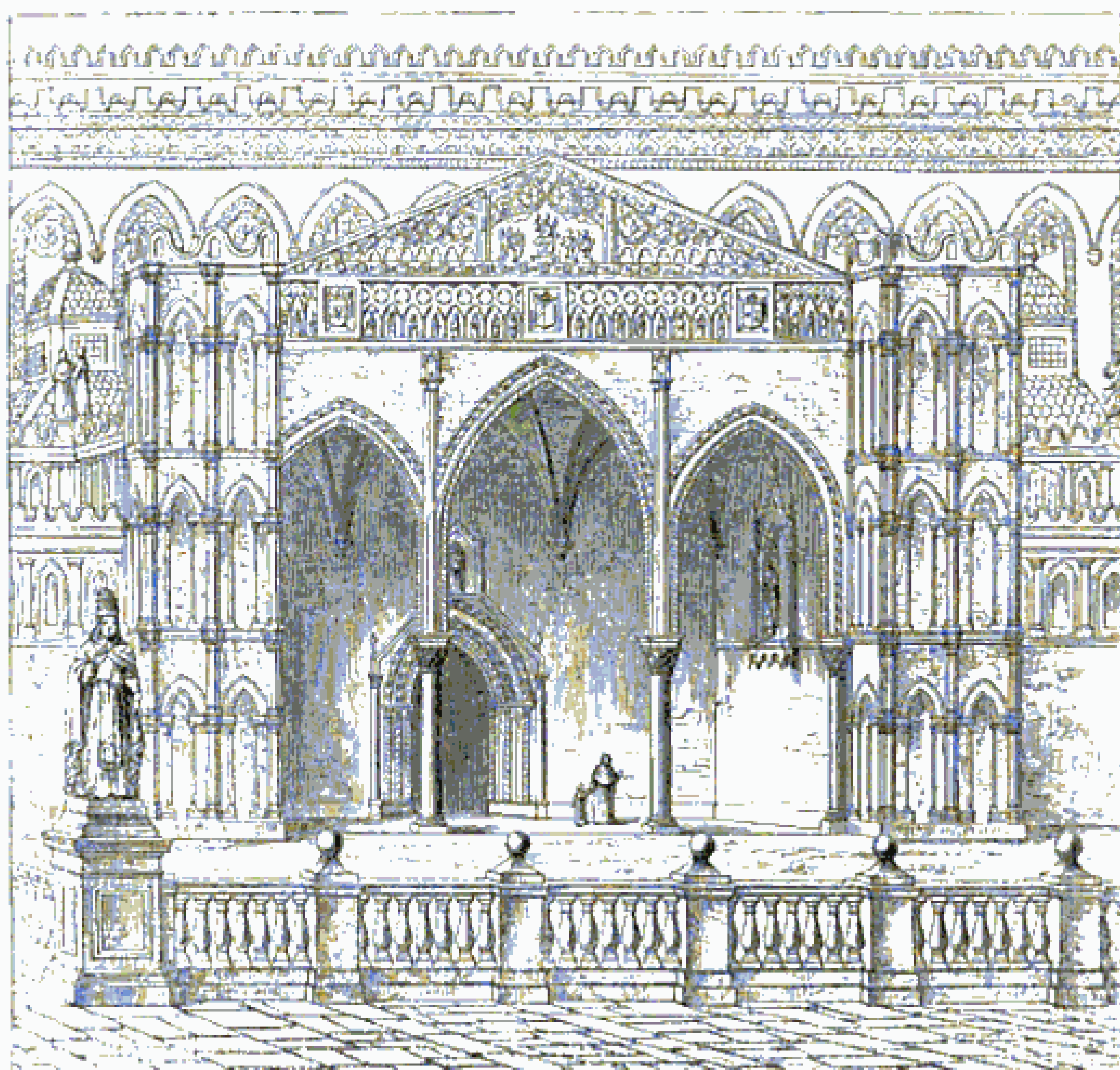
reale is the type, were subordinate, in the eyes of their builders, to the mosaic decorations which cover every part of the interior, and are in fact the glory and the pride of the edifice, and alone entitle it to rank among the finest of mediæval churches. All the principal personages of the Bible are here represented in the stiff but grand style of Greek art, sometimes with Greek inscriptions, and accompanied by scenes illustrating the Old and New Testaments. They are separated and intermixed with arabesques and ornaments in colour and in gold, making up a decoration unrivalled in its class by anything the middle ages have produced. The church at Assisi is neither so rich nor so splendid. The Certosa is infamous in taste as compared with this Sicilian cathedral. No specimen of opaque painting of its class, on this side of the Alps, can compete with it in any way. Perhaps the painted glass of some of our cathedrals may have surpassed it, but that is gone. In this respect the mosaic has the advantage. It is to be regretted that we have no direct means of comparing the effect of these two modes of decoration. In both the internal architecture was subordinate to the colour—more so perhaps, as a general rule, in these Sicilian examples than in the North. In fact the architecture was merely a vehicle for the display of painting in its highest and most gorgeous forms.

Besides the mosaic paintings which adorn the upper part of the walls of these Palermitan churches, they possess another kind of decoration almost equally effective, the whole of the lower part of the walls being revêted with slabs of marble or porphyry disposed in the most beautiful patterns. The Martorana depends wholly for its effect on this species of decoration. In the Capella Palatina, and the church at Monreale, it occupies only the lower part of the walls, and serves as a base for the storied decorations above; but whether used separately or in combination, the result is perfect, and such as is not produced by any other churches in any part of Europe.

Externally the Gothic architects had immensely the advantage. They never allowed the coloured decorations to interfere with their architectural effects. On the contrary, they so used them as to make their windows their most beautiful and attractive features.

The cathedral of Palermo, the principal entrance of which is shown in woodcut No. 658, is a building of much later date, what we now see being principally of the 14th century. Although possessing no dignity of outline or grace of form, it is more richly ornamented with intersecting arches and mosaic decorations externally than almost any other church of its class. It is richer perhaps and better than the cathedral of Florence, inasmuch as here the decorations follow the construction, and are not a mere unmeaning panelling that might be applied anywhere. Still the effect of the whole is rather pretty than grand, and as an architectural display falls far short of the bolder masonic expression of the Northern Gothic churches.

After these, one of the most important churches of that age in the island is the cathedral of Cefalu, already alluded to. It was commenced by King Roger in 1131. It is 230 ft. long by 90 ft. wide.



658. Lateral Entrance to Cathedral at Palermo. From Hittorff and Zanth.

The choir and transepts are vaulted and groined; the nave has a wooden roof; all the arches are pointed; and with its two western towers it displays more Gothic feeling than any other church in Sicily.

The cathedral at Messina, though very much resembling that at Monreale in plan, has been so altered and rebuilt as to retain very little of its original architecture. The other churches in the island are either small and insignificant, or, like that at Messina, have been so altered that their features are obliterated.

Besides the Saracenic castles or palaces above mentioned, there are no important civil buildings of mediæval style in Sicily. There are two cloisters—one at Monreale and the other at Cefalu—both in the style universal in all the countries bordering on the Mediterranean Sea, and already described in speaking of those of Elne, Fontifroide, Arles, &c., as well as those of San Giovanni Laterano at Rome. Their general arrangement consists of small but elegant pillars of Corinthian design, in pairs, supporting pointed arches of great elegance of form. In many respects this is a more beautiful mode of producing a cloistered arcade than the series of unglazed windows which were universally adopted in the North. This Southern method presupposes a wooden, or at most a tunnel-vaulted roof, as at Arles, whereas all our

best examples have intersecting vaults of great beauty, which indeed is the excuse for the windowed arrangement assumed by them. An intermediate course, like that adopted at Zurich (woodcut No. 429), would perhaps best reconcile the difficulty; but this was only used during the period of transition from one style to the other. The effect, however, of the cloister at Monreale, with the fountain in one of its divisions, and a certain air of Eastern elegance and richness pervading the whole, is not surpassed by any of the examples on the Continent of its own size, though its dimensions do not admit of its competing with some of the larger examples of France, and especially of Spain.

As the employment of the pointed arch so early in Sicily has been much quoted in the controversy regarding the invention of that feature, it may be convenient to recapitulate here what has already been said on that subject—this being the last occasion on which it will be requisite to refer to it in the course of this work.

We have already seen that the pointed arch was used in the south of France—at Vaison for instance—at least as early as the 10th century, but only as a vaulting expedient. During the 11th it was currently used in the south, and as far north as Burgundy; and in the 12th it was boldly adopted in the north as a vaulting, constructive, and decorative feature, giving rise to the invention of a totally new style of architectural art.

It is by no means impossible that the pointed arch may have been used by the Greek or Pelasgic colonists about Marseilles at a far earlier date, but this could only have been in arches or domes constructed horizontally. These may have suggested its use in radiating vaults, but can hardly be said to have influenced its adoption. Had it not been for the constructive advantages of pointed arches, the Roman circular form would certainly have retained its sway. It is possible, however, that the northern Franks would never have adopted it so completely as they did had they not become familiar with it from its use either in Sicily or the East. When once they had so taken it up, they made it their own by employing it only as a modification of the round-arched forms previously introduced and perfected.

In Sicily the case is different; the pointed arch there never was either a vaulting or constructive expedient—it was simply a mode of eking out, by stilting, the limited height of the Roman pillars, which they found and used so freely. It is precisely the same description of arch as that used in the construction of the mosque El Aksah at Jerusalem in the 8th century (woodcut No. 312); at Cairo in rebuilding that of Amrou in the 9th or 10th, in the Azhar and other mosques of that city, and also, I believe, in the old mosque at Kairoan, which was the immediate stepping-stone by which it crossed to Sicily. It was used too in Spain, at Cordova and Granada, before and after its introduction here, till it became a settled canon of art, and a usual form of Moorish architecture. As such it was used currently in Sicily by the Moors, and in Palermo and elsewhere was so essentially a part of the architecture of the day that it was employed as a matter of course in the churches; but it neither was introduced by the Normans, nor carried by them

from Sicily into France, and, except so far as already stated, it had no influence on the arts of France. In fact there is no connexion, either ethnographically or architecturally, between the Sicilian pointed arch and the French, and beyond the accident of the broken centre they have nothing in common.

Although therefore it will hardly again be used as bearing upon the question of the invention of the pointed arch, the architecture of Sicily deserves a better monography than it has yet been made the subject of. It must, however, be written by some one more intimately familiar with the Byzantine, Saracenic, and Romanesque styles than those have been who have hitherto undertaken the task. To any one so qualified it will afford the best field to be found in Europe for tracing the influence of race and climate on architecture; for nowhere, owing in a great measure to its insular position, are the facts more easily traced, or the results more easily observed.

In one other point of view also the style deserves attention, for it is only from it that we can fairly weigh the merit of the two systems of internal decoration employed during the middle ages. By comparing, for instance, the cathedral at Monreale with such a building as the Sainte Chapelle at Paris, we may judge whether polychromy by opaque pictures in mosaic, or by translucent pictures on glass, is the more beautiful mode of decorating the interior of a building. The former have no doubt the advantage of durability, but for real beauty and brilliancy of effect I have little doubt that nine persons out of ten would prefer the latter. The question has never yet been fairly discussed; and examples sufficiently approximating to one another, either in age or style, are so rare that its determination is not easy. For that very reason it is the more desirable that we should make the most of those examples we have, and try if from them we can settle one of the most important questions which architectural history has left for us to determine with reference to our future progress in the art.

BOOK VII.

SPAIN AND PORTUGAL.

CHAPTER I.

SPAIN.

CONTENTS.

CHRONOLOGY.

	DATES.		DATES.
Gothic conquest—Athaulf	A.D. 411	Alphonso III.—conquest of Toledo . .	A.D. 1085
Moorish conquest	711	Conquest of Cordova	1226
Kingdoms of Navarre and Aragon established about	760	——— Valencia	1238
Sancho I., King of Castille	1005	——— Seville and Murcia . . .	1243
Alphonso VI. unites all Northern Spain into one kingdom	1072	Ferdinand el Santo died	1252
Henry de Besançon—foundation of kingdom of Portugal	1095	Alonso el Sabio	1252–1284
		Pedro the Cruel	1350–1369
		Ferdinand and Isabella	1474–1516
		Conquest of Granada	1492

The monuments of Gothic architecture in Spain are known to be numerous and splendid, and its history would be of surpassing interest; but beyond this the subject is almost unknown. With few exceptions we have no means of obtaining even the most elementary notions regarding the dates and styles of the noble mediæval cathedrals of this land.[1]

[1] A large amount of valuable matter on the subject is contained in the España Sagrada and the works of Pons and Cean Bermudez. But these works are unaccompanied by drawings, and consequently not available for the purposes of exact examination and description. The later writers who have touched upon the subject are Roberts and Villa Amil. The former, however, is far too incorrect a sketcher, and too studious of picturesque effect at the expense of truth and exactness, to be of use to any one desirous of data to reason upon. The latter is more correct, and with a nicer perception of the peculiarities of style has produced a work which, if accompanied by a few plans and architectural details, would go far to supply the deficiency complained of. Everything, however, has here again been sacrificed to the production of a splendid picture-book.

There is more information on the subject contained in Ford's Handbook of Spain than in any other work that has been published; but this is without illustrations, and the proportion of the book assigned to architecture is necessarily small. A good deal may be gleaned from the works of Wells, Widdrington, Hoskins, and other recent tourists, but it is of the most unsatisfactory class, as neither they nor any one else who has yet published on Spain were sufficiently instructed to pronounce on any of the disputed questions. Even the splendid work of Laborde adds very little to our knowledge of the subject, being almost confined to the Roman antiquities, while the Gothic were either despised or misunderstood.

With this almost total want of accurate and detailed descriptions, it is obvious that we cannot arrive at any of those minute peculiarities and finer shades of difference which give such value to the development of styles. There is the still greater danger that these particulars are liable to be mistaken and misstated from the want of sufficient data on which to found any correct deductions.

The great outlines of Spanish history are strongly marked and easily understood. From the Gothic king Athaulf (417) to the death of Roderick (714) Spain was under the dominion, more or less complete, of the Goths. No buildings are now known to exist which belong authentically to that age, but it must be supposed that a foundation of Gothic institutions and a mixture of Gothic blood was the result of this long dominion; and these elements showed themselves most distinctly in Spanish history and art in all subsequent ages. With the Moorish conquest in the beginning of the 8th century the architectural history of the country divides itself into two separate and distinct branches. The one fixed its head-quarters at Cordova and afterwards in Granada, where it remained unmixed during the whole period in which these cities were occupied by the Moors. It gradually spread itself north as far as the Pyrenees, losing, however, much of its purity as it extended farther, and easily and rapidly dying out on the first reverse of fortune that befel its brilliant inventors. The other, nursed in the rude cradle of rugged Asturias, maintained itself in Oviedo and Leon throughout the whole of the middle ages, and during the 11th century, when the tide of conquest began to roll back on the Moors, gradually extended itself to the south. In the southern provinces it imbibed much of the richness of the Moorish architecture which it was superseding, and gave rise to the style that may aptly be called Moresco, to denote a mixture of Saracenic with Gothic art, as we use the word Romanesque to designate a mixture of Roman with the styles imported or invented by the Barbarians.

The ebb and flow of these two great styles is strongly marked and easily traced, even with such imperfect information as is now available; but when we attempt to discriminate between the minor and provincial peculiarities of each, our knowledge is utterly at fault. We can just perceive that Spain, like France, is divided into several architectural provinces, as strongly marked and as distinctly bounded, but what these features and where these boundaries are, still remains to be determined. One remark only can be made here, which is, that in Gothic architecture Aragon and Navarre, with Catalonia and a great part of Valencia, appear to rank with Gascony, Rouergue, and Roussillon. In fact, in the middle ages, the Pyrenees, to use the expression of Louis XIV., did not exist.

This style common to the two countries appears to extend farther into Spain than into France. Leon and Gallicia stand apart from this and from the rest; the Castilles had a distinct style of their own, and south of these the Moorish element predominates to such an extent, and tinctures everything so completely, as to form an easily distinguished province by itself.

With a felicity of nomenclature unknown in other countries, the Spaniards call their earlier round-arched buildings *Gothic*, "obras de los Godos," which they certainly were, the name being always far more applicable to the round-arched than to the pointed style. The latter they call "Tudesco," or Teutonic, an equally appropriate name with them, as, singular though it may at first appear, they borrowed the style from Germany, and not from the fountain-head of France.

In a former chapter it was shown with what difficulty the Frankish architects forced their style on the southern or Romance Provinces of France, how unwillingly it was received there, and how little its principles were ever understood by that conquered but unamalgamated people. The sword of Simon de Montfort and his fellow crusaders, and the dungeon and stake of the Inquisitors, who were left to complete at leisure the pious work, did accomplish an outward conformity. But their influence and teaching never extended beyond the Pyrenees. Thus the hatred caused by the very success of the Franks formed a barrier which added to the innate repulsion between them and the Spaniards, and effectually prevented the style from penetrating in that quarter.

On the contrary, a constant communication, aided by affinity of race, was kept up through Lombardy between the Goths of Spain and those of Germany, and, paradoxical though it may at first sight appear, it is nevertheless true that the pointed style progressed from Paris to Tournay and Cologne, thence up the valley of the Rhine to that of the Po, and so on to Barcelona and Burgos, thus almost making the tour of Europe instead of following the shorter and what might seem the natural route. In later years we see these same countries peacefully united under Charles V., though the power of Louis XIV. could not unite France and Spain, so repugnant are the natures of the two races one to the other.

An ethnologist will miss in the above enumeration of styles and races all mention of the Phœnicians and Iberians, who, before the Roman torrent swept over Europe, occupied in the Peninsula the same relative positions as the Moors and Goths did in the middle ages. Some influence they certainly had, but I fear it is impossible to trace it architecturally, as the Phœnicians never were a building race; and while no monumental traces of their power remain at Tyre, Sidon, or Carthage, such are not to be expected in the imperfectly-known Peninsula, where, too, they were much less firmly established. The Iberians, on the other hand, seem to have been complete savages, who never built nor could build; and their influence consequently has been very slight on the arts of their country.

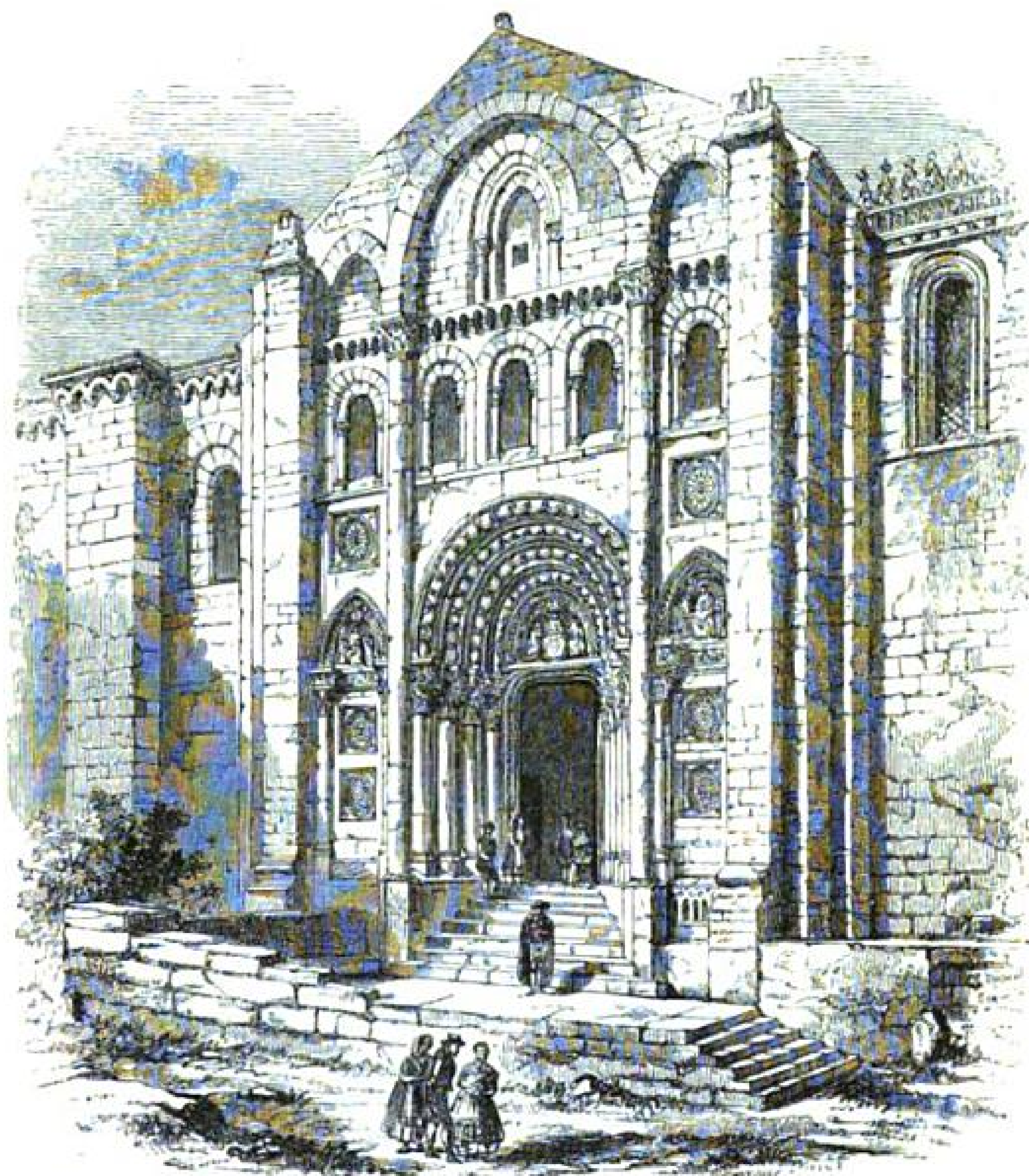
Till some accurate plans of Spanish churches are published, it is impossible to understand either what their general arrangements are or whence derived. The only one which I possess or ever saw of one of their first-class cathedrals is that of Seville, and unfortunately it is, for the purposes of history, the least interesting of any, inasmuch as, being built on the foundations and in the exact form of the mosque it replaced, it is no index to the usual arrangement of Christian

buildings. From descriptions and views we gather that all the older and smaller churches possess the usual semicircular apse, while the cathedrals and larger churches display the chevet arrangement. The latter is either the complete French chevet with its circlet of chapels, or what may be called the German chevet, an aisle bent round behind the high altar with one eastern chapel. If the eastern end of the church is rectangular, this is a lady chapel; if circular or octangular, as at Burgos and Batalha, a tomb-house. All the larger churches have transepts, but they seldom project beyond the side aisles, and at their intersection with the nave there always is a dome or raised part of the roof, marked externally by a low tower or projection of some sort. The Spanish architects apply the name *Cimborio* to this feature, and as it is peculiar and local in its form, it may be well to retain this appellation in speaking of it in future.

The nave has always side-aisles and sometimes chapels. The principal entrance is invariably at the west end, and generally flanked with towers. All these characteristics are common to all churches on both sides of the Pyrenees, and therefore cannot be considered as exclusively belonging to Spanish churches. The arrangement of their choirs, however, is, I believe, peculiar, at least as we find choirs now, though it is by no means clear that in ancient times this arrangement was not more common.

Instead of placing the principal entrance of the choir at the west end, as in France and England, the Spaniards erected in the middle of their churches something like an internal double apse German church, entering it, as in Germany, on the north and south sides opposite the transept doors, which thus, it must be confessed, acquired a meaning which we miss in the more common arrangement. Thus, instead of having the space east of the transept large enough to contain the high altar, and the stalls of the clergy and choir, they made it generally only one or two bays in depth, containing merely the high altar, with a screen on each side. The space in the centre of the transepts and under the *cimborio* is unoccupied, and screened off by railings (cancelli); and the whole choir, with the stalls of the officiating clergy, is to the westward of the intersection. Whether intentionally or not, Westminster Abbey is now arranged according to this plan, and if the western door of the choir were blocked up, would exactly represent a Spanish cathedral.

It is not difficult to see that this arrangement is derived directly from that of the Roman basilica. Turning, for instance, to the plan of St. Clemente (woodcut No. 365), the choir is seen to project exactly in the same manner into the nave. When there were transepts, there was an open space in front of the cancelli of the high altar. The difference was, that the enclosure of the choir in the basilicas was only a low wall, 3 or 4 ft. high, which did not impede the view of the high altar. In Spain it is sufficiently lofty to afford a back to the high canopied stalls, which in all Gothic cathedrals form the seats of the higher clergy. In consequence it not only hides the high altar from the principal entrance, but is a most unmeaning interruption to the



659. Cathedral at Zamora. From Villa Amil.

general ordinance of the church. It is evidently an architectural absurdity on entering the principal doorway to see nothing before you but a dead wall, and to be obliged to turn into the side aisles to obtain an entrance to the sanctuary of the temple. The transepts, as before remarked, derive benefit from this method, but not to the extent to which the principal entrance loses; for no side entrance can ever replace the dignity of one opposite to the principal object in the temple.

Some minor arrangements, which are peculiar, will be noted in the sequel; but this is so important, that without pointing it out in the first instance it would be impossible to understand what follows.

Of the older churches, all that we know are in the neighbourhood of Oviedo. One of these, Sta. Maria de Naranco, is said to have been built in the 8th century; another, San Miguel de Lino, 850; a third, S. Julian, about the same time; and a fourth, Nuestra Señora de la Vega, in the 12th century. Besides these, there can hardly be a doubt that many other similar churches are scattered through the Asturian valleys.

One of the most interesting churches in this neighbourhood is that of St. Isidoro at Leon, which Capt. Widdrington calls Byzantine, meaning probably merely circular arched. Like the Rhenish churches, it consists of three aisles, terminating in apses to the eastward. At the west end is the Pantheon, or place of burial of the ancient kings. Capt. Widdrington describes it as "low and dark, with groined arches, the ceiling painted and ornamented in a style so purely and entirely Byzantine, that beyond doubt the artists must have come from Constantinople." There are two entrances, apparently lateral, richly sculptured, and other peculiarities, which render this one at least of the most interesting churches of its age, which seems to be about the 11th century.

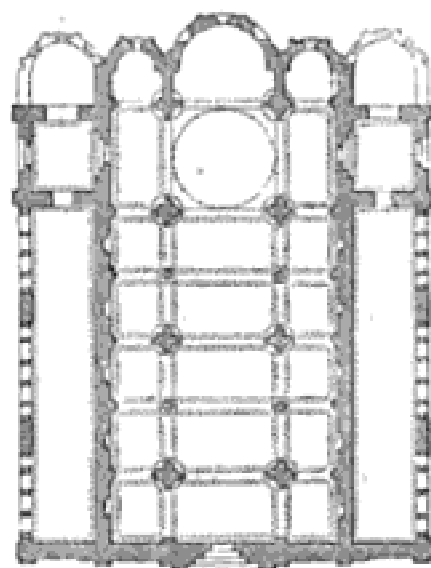
At Zamora there is a cathedral, part of which (probably the walls shown in woodcut No. 659) dates from the same period; but the great portal, though still retaining the round arch, is evidently of the 12th, if not of the 13th century; for here, as in the South of France, the natives adhered to the old form with a pertinacity rather startling, when we consider that the Moors had used the pointed arch for many centuries before that time. Another church, the Madelaine, in the same city, possesses a noble lateral doorway of the 11th or 12th century, and both internally and externally is less altered than most churches of its age. The vault of the choir is the pointed tunnel-vault of the South, and is mixed with round forms and semi-Moorish details



66?. Collegiate Church at Toro. From Villa Amil.

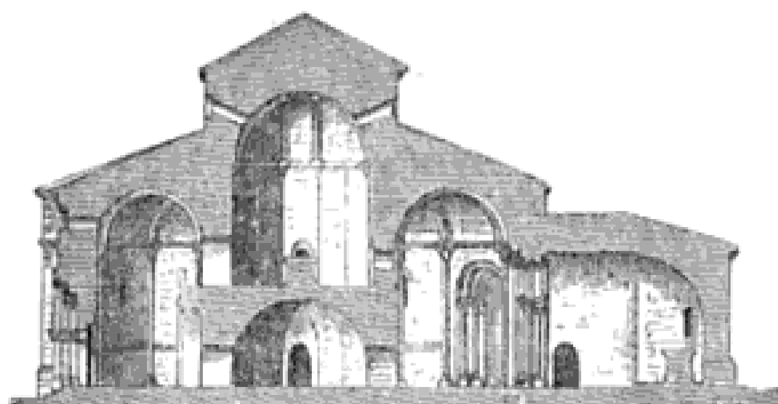
in a manner more picturesque than beautiful. Externally, these peculiarities are better shown in the Collegiate Church at Toro (woodcut No. 660), which displays the rich lateral doorway of this age, and introduces us to the tower-like domes (*cimborio*), half Moorish, half Gothic, which are so characteristic of the style.

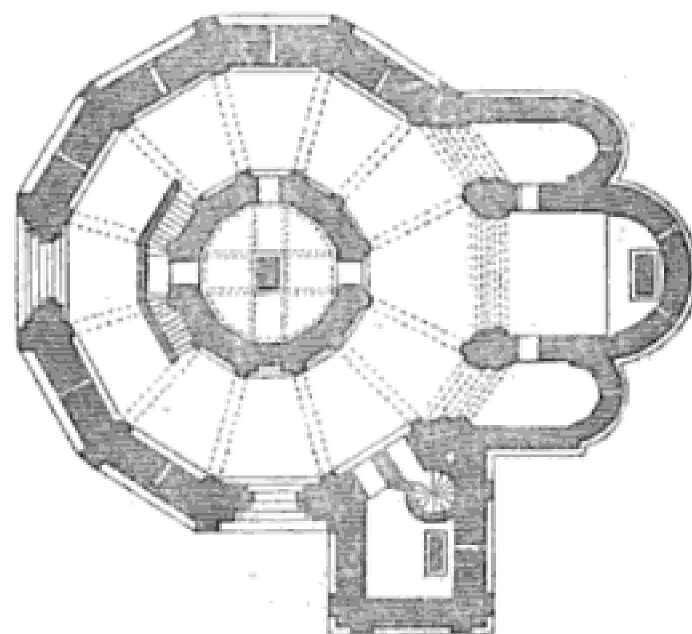
All these churches, and as far as descriptions are intelligible, almost all those erected before the 13th century, had their principal entrances at the side; and if they had not the double apse of the Germans, they had at least sometimes a tomb or baptistery at their west ends. If this was the general rule, as appears to have been the case, it is easy to understand how the Spaniards came to separate the choir from the high altar, and make the lateral entrances into it as they did.



661. St. Millan, Segovia. From Gailhabaud. Scale 100 ft. to 1 in.

The plans of two other churches have recently been published in France by M. Gailhabaud; one, that of St. Millan (woodcut No. 661), served originally as cathedral for Segovia before the building of the present one, commenced in 1525. Though small, it is interesting for the peculiarities of its structure, having no windows but those at the west end, and some very small ones at the east. It must have been a very dark and gloomy edifice even without painted glass, and in the bright climate of Spain. It possesses lateral galleries, common in this part of Spain, and found also in Germany. These are no doubt the lineal descendants of the peristyles of the Romans, and the precursors of the cloisters — or peristyles turned inwards—that superseded them everywhere.





662. Church of the Templars at Segovia. No scale.

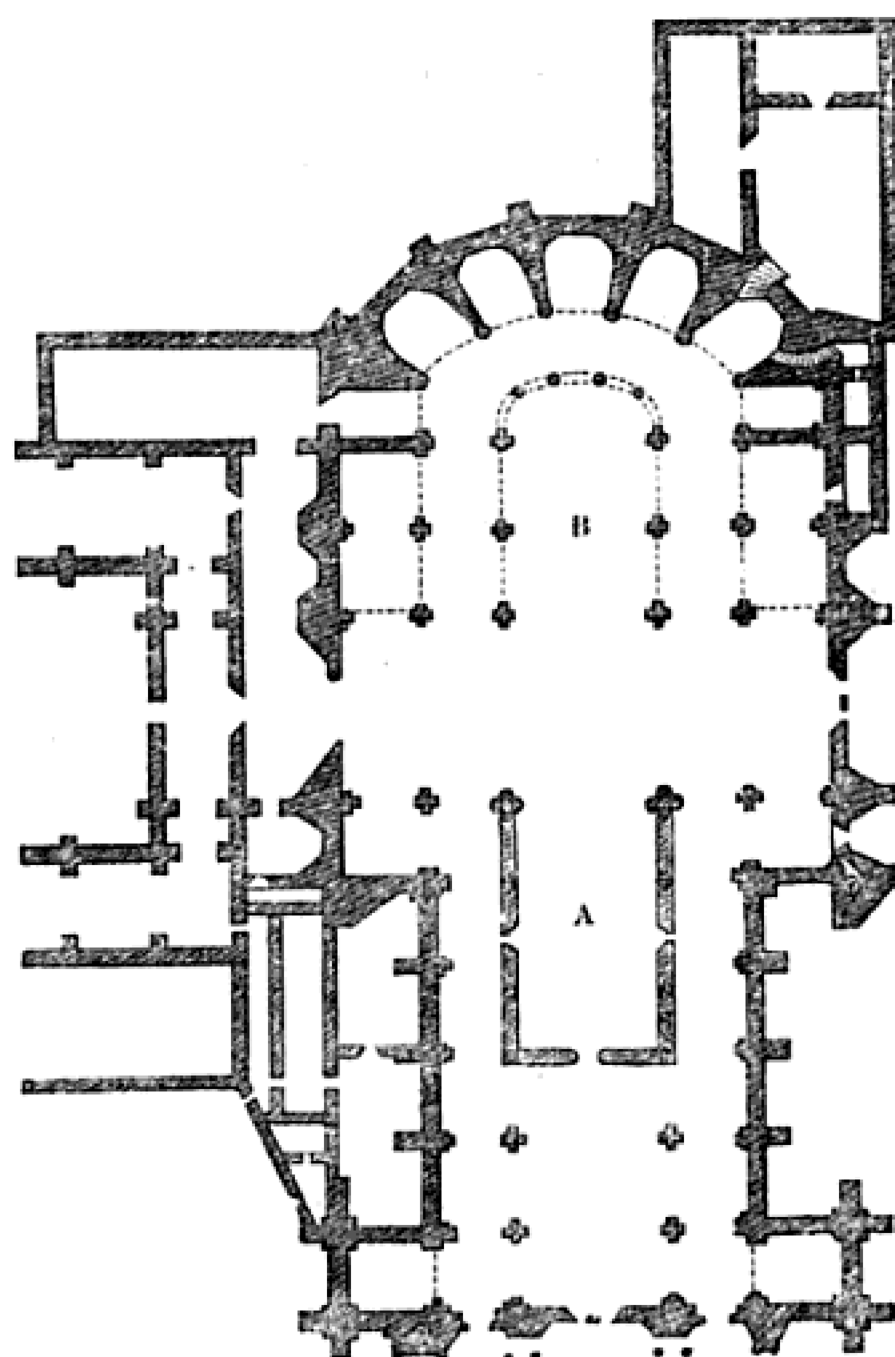
The other is a circular church of the Templars, one of the few of that form found in Spain, copied no doubt from the church of the Holy Sepulchre at Jerusalem. Though its date is 1204, it hardly shows a trace of the pointed arch internally. Its doorway is pointed and ornamented with the billet moulding, which would date fifty years earlier in England, and nearly a century before that period in France. Its

internal arrangement is peculiar, having a raised tomb or vault in the centre; and altogether it looks much more as if it were copied from the Dome of the Rock than from the church now known as the Sepulchre at Jerusalem.

This is a meagre account of a great style; but the Romanesque styles of the South of France have been described above purposely at considerable length, because of their prevalence over the whole district from Arles and Avignon to Zamora and Segovia. These styles were gradually elaborated from Roman architecture, specimens of which covered these lands. That part of them found on the French side of the Mountains is now tolerably known; though to complete our knowledge we require to be able to compare them with the Spanish branch. We have already seen that the latter was characterised by a stronger affinity with the Gothic style which appeared on the banks of the Rhine and the Po, as contradistinguished from the Romanesque tendencies of the Southern provinces of France.

Pointed Style.

With the very imperfect materials at our command it is impossible to say, with anything like confidence, when the pointed style was introduced into Spain. It is almost quite certain that the Saracens used the pointed arch in that country as early at least as the 10th century, though, as before remarked, they always in Spain preferred the Roman circular shape, but stilted so as to get the same elevation which the broken arch gave.



663. Cathedral of Leon. From Ponz ('Viage'). No scale.

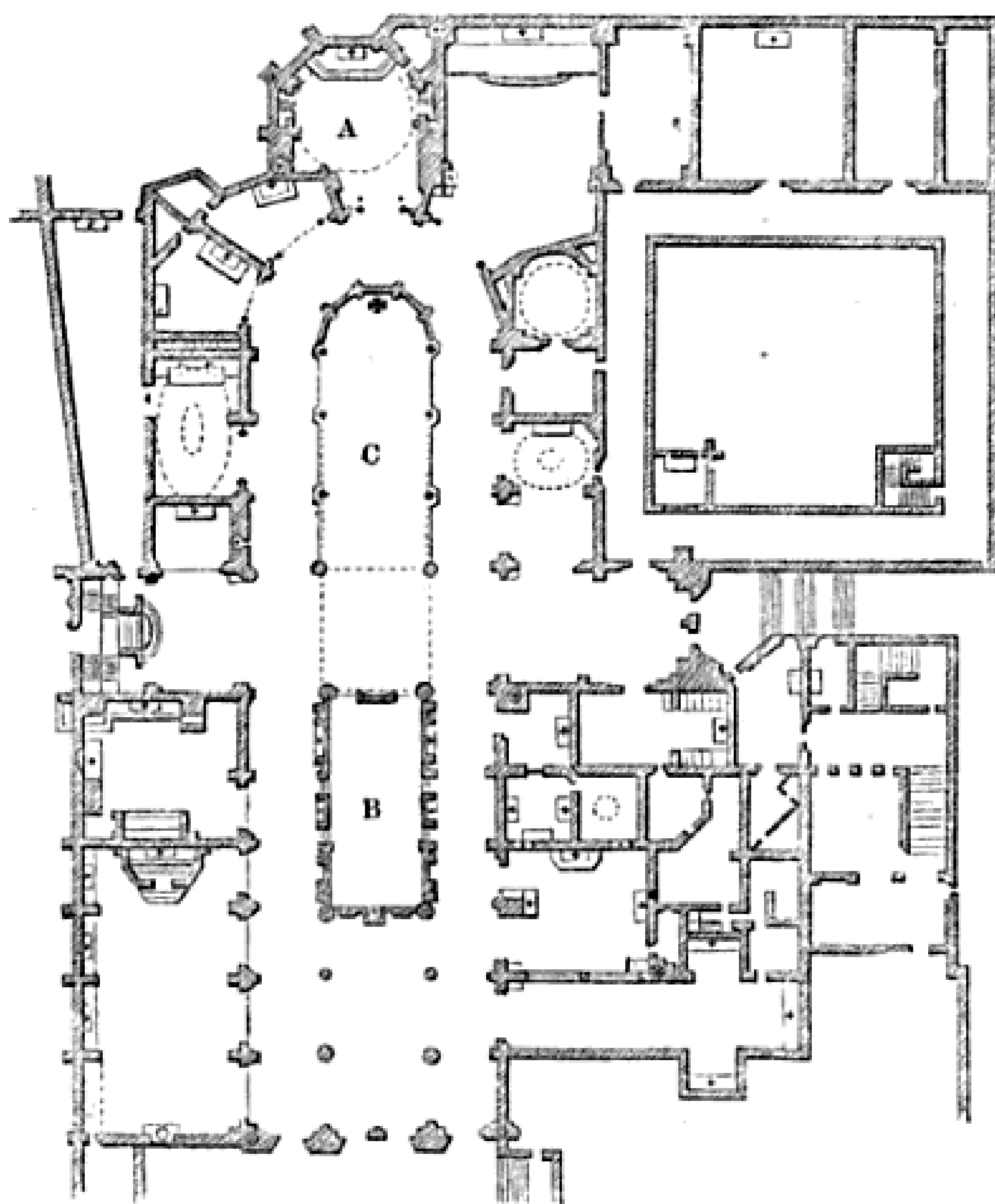
It is also evident that in the 11th century, if not before, the pointed vault and constructive arch of the South of France were also used on this side of the Pyrenees; but neither of these belong to the pointed Gothic *style*, of which I am not aware of any example earlier than the reign of Ferdinand the Saint (1217). The cathedral

of Leon, or some part of it, may be a little older, and Capt. Widdrington seems to say that he is able to prove that French and German architects were employed by the kings of Leon: if so, the cathedral must have been the work of a Frenchman, as it is a regular chevet church, commenced in 1199, though the greater part of the superstructure is of a much later date. Were it not for the disfigurements of modern times, this would be one of the most beautiful cathedrals in Spain: "proverbially," says Ford, "it is one of the most graceful and elegant in the world." Capt. Widdrington gives the preference to its neighbour of Oviedo, which he says is the most beautiful of all the cathedrals of Spain, although in scale it must yield to many of them.

Although the plan here given (woodcut No. 663) from Ponz ('Viage') is not quite to be depended upon, it explains so fully the position of the choir (A) and *capilla maior*—or chapel of the High Altar (B)—in Spanish cathedrals, that it is worth quoting.

This building differs from a French cathedral of the same date mainly in the greater importance of the parts to the west of the transept, and of the lateral entrances.

The cathedral of Burgos (woodcut No. 664) has been better illustrated than that of Leon, and being on the high road of all travellers, has been frequently sketched, but not measured, which is the more to be regretted, as it is probably the most characteristic cathedral in all Spain, presenting both internally and externally all the peculiarities of the style more perfectly than any other.



664. Cathedral at Burgos. From Ponz. No scale.

It was founded in the reign of St. Ferdinand, about the year 1221, and the greater part of the east end and body of the church belongs to the early part of the 13th century. The west front (woodcut No. 665) was added two centuries afterwards, the capilla *condestable*

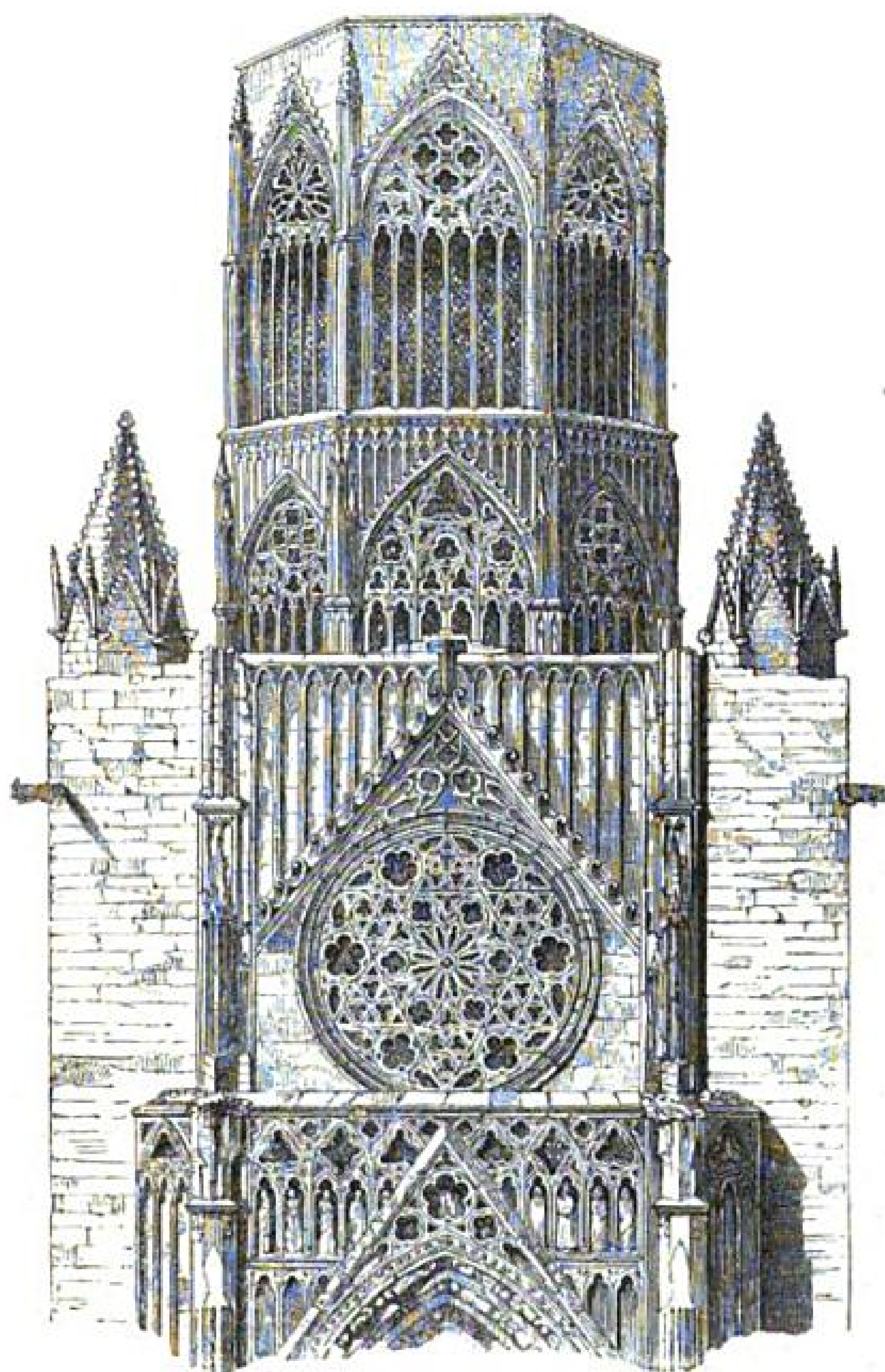
(A)—so called from having been erected as the burying place of the Velasco family, hereditary constables of Castille—at the very end of



665. West Front of Burgos Cathedral. From Chapuy, Moyen Age Monumental.

the 15th; and the cimborio was not completed till 1567, the older one having fallen down in 1539. This long range of dates causes of course some incongruities of style, but without impairing the general effect. The varied richness of the outline is unrivalled by that of any French

or German cathedral, and matched only by some of our own English examples. The western façade is a German importation, having been erected by two masons from Cologne, who carried out in a foreign land the design which their countrymen were unable to complete in the land of its invention. It is in fact, with the exception perhaps of the cathedral of Berne, the only design of this class that has been completed



666. Cimborio of Cathedral at Valencia.

with the two open-work spires; and though the dimensions are small, the height being only 280 ft., the effect is remarkably good. Before the removal in the last century of the deeply recessed and sculptured portals, this façade must have been one of the most beautiful compositions in existence. From its late date, there are of course some impurities of style; but to compensate for this, there is a richness of fancy

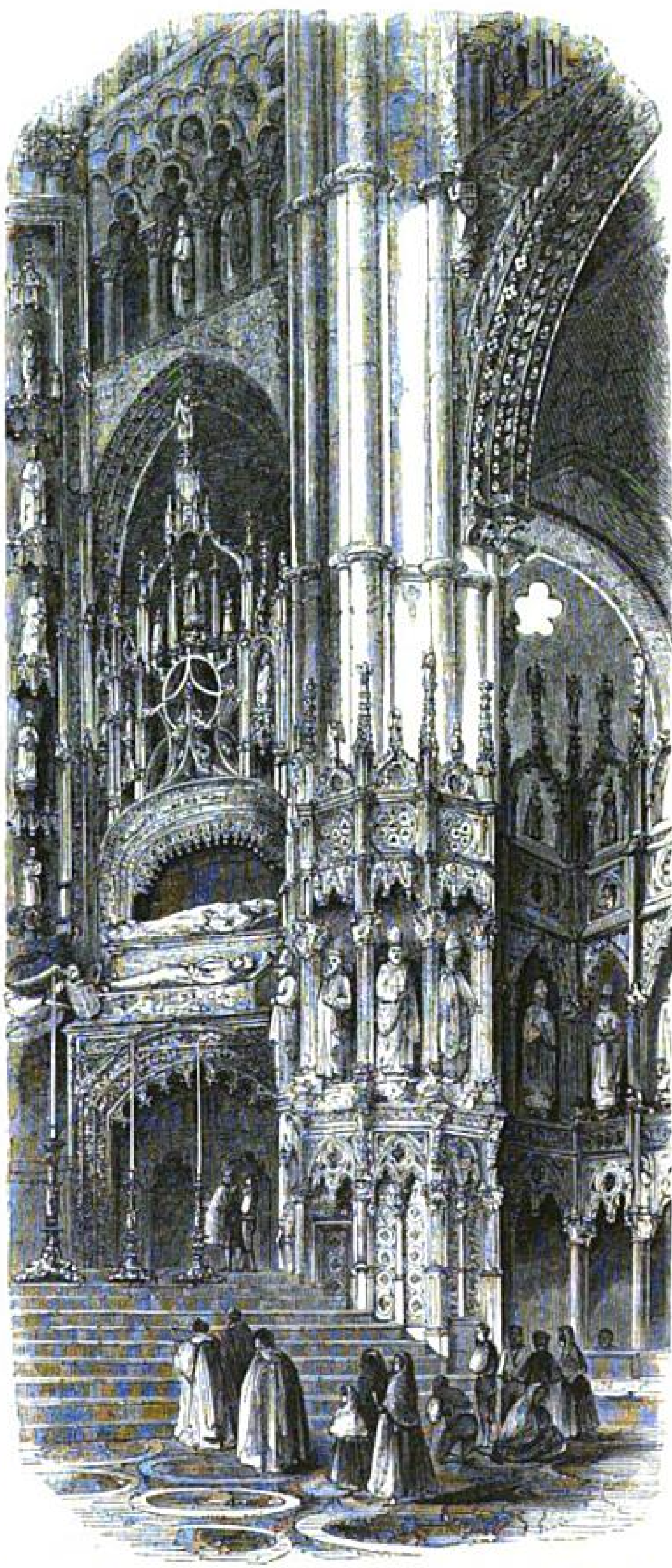
and a half Oriental exuberance of design that more than redeem it, and make it altogether, perhaps, a more beautiful thing than its gigantic rival on the Rhine will ever be, with all its cold perfection of masonry. The height of the towers is said to be equal to the length of the building. They would thus have a tendency to overpower the rest, were it not for the central octagon, and still more for the great octagonal structure of the chapel of the Condestable, which rises beyond the eastern apse and balances the whole, making the cathedral appear longer than any other of the same dimensions. The cimborio itself was erected in the reign of Charles V., and cannot boast of much beauty of detail. Its outline, however, is probably copied from that of the building it replaced, and is certainly singularly happy: as it is, it may be taken as the latest example of a favourite Spanish form, of which that at Toro, shown in woodcut No. 660, is one of the earliest; and this (woodcut No. 666), from the cathedral at Valencia, a fair intermediate specimen. They are one of the most striking and characteristic features of the style, the want of which is much felt in all French cathedrals, except those of Normandy, where, as in England, this centering of the design, if we may so call it, was carefully attended to. But the cimborios have less analogy to the central spires used on both sides of the Channel than to the domes which in Italy and Germany so commonly mark the intersection of the nave and transepts, and which afterwards grew into the great Renaissance domes of St. Peter and its imitations.

Internally the arrangement of the cathedral of Burgos is very like a French church of the same age, the choir (B) only being arranged in the Spanish mode. The capilla maior (C), or the part eastward of the transept, is longer in proportion than is usually the case in this country, and it is now so overgrown with chapels that it is difficult to make out what the original design was. Of these last the most remarkable is that of the Condestable alluded to above. It is not large, being only about 45 ft. in diameter, but nothing can exceed the extraordinary elaborateness of its decorations. In this respect it surpasses even Henry VII.'s chapel at Westminster. Indeed it is only in Spain that perfect *abandon* as regards expense and finish is to be found. If any Gothic building exists of equal richness, it is Roslin chapel; the design of which was most probably imported from this part of Spain, every detail and form being easily traced back to the Castilles or the neighbouring provinces. Better taste, it is true, might be found elsewhere, but in buildings of so late an age we must be content with the display of labour, guided, as in this case, with some degree of taste, before the invasion of vulgarity which took its place in the succeeding century.

A similar chapel to this is attached to the cathedral of Murcia, called the Capilla Marchese. Internally this is as rich and nearly as beautiful as that at Burgos, though its external outline is very inferior. The most splendid specimen of its class, however, is that which Emanuel the Fortunate commenced as a burying place for himself behind the altar of the church at Batalha, of which more hereafter.

The cathedral of Toledo was commenced about the same time as that

of Burgos, but on a larger scale, being, with the exception of Seville, the largest of Spanish mediæval cathedrals. Its internal dimensions are:—"Length, including a moderately sized chapel at the eastern end, 350 ft.; width throughout, 174 ft.; height of principal nave and transept 120 ft. The width is divided into 5 aisles, those on the outside rising to about two-thirds the height of those next the centre, and these to about one-half the central aisle."[1] Its arrangement in plan is apparently almost identical with that of Troyes cathedral (woodcut No. 551), but its dimensions are somewhat less. Its details are,



667. View in the Choir of the Cathedral at Toledo. From Villa Amil.

[1] Wells, Picturesque Antiquities of Spain, p. 128, whose dimensions I have followed in preference to those of Ponz, quoted by Ford, as more consistent with each other, and with probability.

generally speaking, those used in France and England in the beginning of the 13th century, though its locality occasionally shows itself in the Moorish character of some of its parts. The triforium for instance seen in woodcut No. 667 is throughout decidedly Moresco, and a practised eye will detect on every side a tendency to depart from the sober constructive rules of the pure Gothic, and to give rein to an Oriental exuberance of fancy which is so typical of the style.

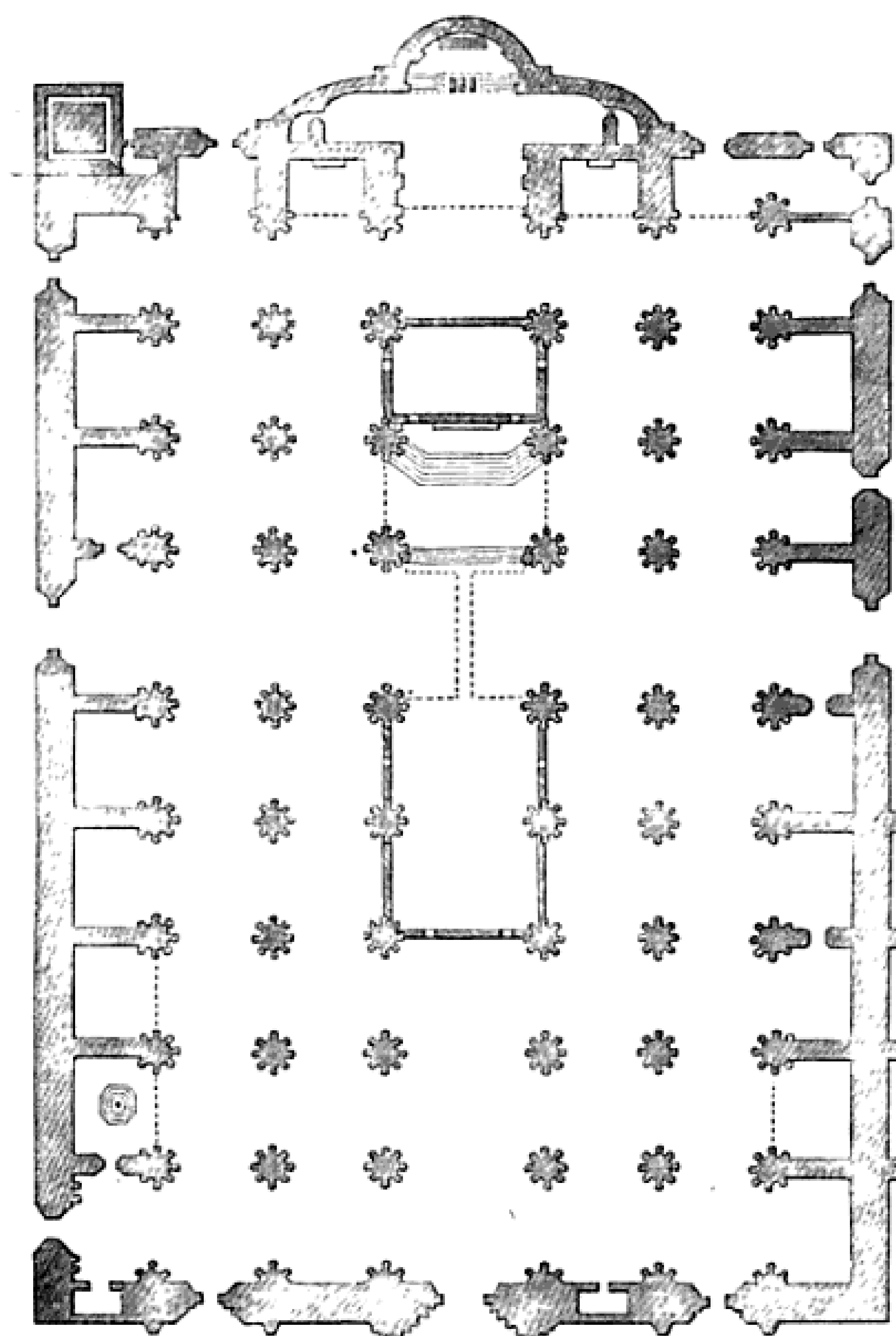
The cathedral of Toledo is even more remarkable for the richness of its furniture than for that of its architecture. The altars, the screens of the tombs, the candelabra, the paintings on glass and canvas, make up a mass of ornament to which no parallel is to be found in France or England. Many cathedrals in these countries may once have possessed furniture equally rich; but spoliation and neglect, and, worse than either, the so-called spirit of improvement, have swept most of this away, and it is in Spain only that we are carried into the bodily presence of a mediæval church. Even Toledo has been sadly disfigured with whitewash; and neglect and poverty are fast fulfilling the destructive mission of the age. Still enough remains to enable the architect to understand and re-create the glorious vision of a cathedral as it appeared in ancient days.

Externally this cathedral is very inferior to that at Burgos. Only one of its western towers has been completed, and this not in the best taste. Its cimborio is unimportant, and there is no towering eastern capilla to carry the eye beyond the precincts of the church itself.

The cathedral of Seville, the largest and grandest ecclesiastical edifice in Spain, is an exact counterpart of that of Milan. It is not known who its architect was, but he must have been a foreigner, and most probably a German, as no Spaniard, especially in the south, could have restrained his fancy to the comparative purity of its forms. Its plan is very peculiar, owing to its having been built in the form and of the exact dimensions of a mosque which stood on the spot till 1401. It was then pulled down to make way for the cathedral, which was completed 118 years afterwards. Its form is a parallelogram of about 372 ft. by 270, covering therefore, as near as may be, 100,000 square feet, exclusive of the royal sepulchral chapel—a cinque-cento addition to the eastern end. With this, its area is nearly identical with that of Milan, and it betrays in all its parts the same want of knowledge of the true principles of Gothic design. Notwithstanding all this, it is so grand, so spacious, and so richly furnished, that it is almost impossible to criticise when the result is so splendid and imposing. The effect of its exterior is even worse than that of Toledo, and but for the magnificent Moorish Giralda, represented above (woodcut No. 361), that stands at its north-eastern corner, it would scarcely possess a single remarkable external feature.

The central aisles of the nave and transept are each 56 ft. wide from centre to centre of the pillars; the side aisles are 40 ft.; so that the distance of the diagonal pillars of each square compartment of the side aisles is exactly equal to the width of the central nave. It thus happens that if the 4 central pillars at the intersection of the nave and

transept were left out, the 8 next would form a perfect octagon. As was remarked in speaking of Jaina temples (p. 77), this, which is the proportion always used in them, is pleasing for buildings which have roofs of the same height, but is not sufficient where the roof of one aisle is higher than that of another;[1] and though the difference in height is in about the same ratio here, this is not sufficient for contrast,



668. Plan of Cathedral at Seville. Scale 100 ft. to 1 in.

and all the pillars being of the same thickness and of the same design, there is too great uniformity of dimensions and a want of subordination of parts which prevents this church from looking so large as it really is.

It would be impossible to render the architecture of the remaining cathedrals of Spain intelligible without a mass of illustration which is not available. Some of these, however, are well worthy the attention

[1] I am not aware of this proportion having been used in any other Gothic church of importance.

of artists, besides their historical importance. That of Santiago, for instance, though entirely modernised externally, still retains in the interior many of the features of a church of the 12th century, and is remarkable for the bold, massive appearance of strength which characterised that age. The same may be said of the cathedral of Cuenca, a building of the same period, with a simple circular apse, and a certain amount of Moorish detail and feeling which was sure to mark its more southern locality. Those at Tarragona and Barcelona are both remarkable buildings. The latter especially, commenced in 1298, is the typical example of the Catalonian style. So far as we have means of judging, it seems to have been a failure as a Gothic design, though displaying considerable grandeur.

Salamanca possesses two cathedrals, one commenced in 1102, simple and massive, half a fortress; the other begun in 1513, a florid specimen of the last age of Gothic art, just before changing into the Renaissance. So too at Segovia: the old cathedral has already been spoken of (p. 823); the new, begun in 1525, on the model of that of Salamanca, shows the style in its last age. The old cathedral of Saragoza (the Seo) is somewhat older, probably of the 15th century, and a fair specimen of the Spanish style of that age, perhaps not much inferior to the contemporary styles in the north of Europe, but still a sad falling off from the purer Gothic that preceded it.

The gem of this age is the church of St. Juan de los Reyes at Toledo, erected by Ferdinand and Isabella, and ornamented with all the lavish exuberance which the wealth of the New World could supply in aid of the earnest bigotry of its royal founders. It is to the Spanish style what Henry VII.'s Chapel is to the English, or the Eglise de Brou to the French, surpassing both in richness of detail, but, like them, depending far more on ornament than on design for its effect.

Some parts of the church of San Miguel at Xeres exceed even this in richness and elaborateness of ornament, and surpass anything found in Northern cathedrals, unless it is the tabernacle-work of some tombs, or the screens of some chapels. In these it is always applied to some small and merely ornamental parts. In Spain it frequently is spread over a whole church, and, as in this instance, what in a mere subordinate detail would be beautiful, on such a scale becomes fatiguing, and is decidedly in very bad taste.

Slightly subsequent to these are the cathedrals of Granada and Jaen, where the features of the Gothic style are so blended with those of the so-called Revival, that it would be easy to claim them for either class. In every other country of Europe at this age the Reformation had stopped church-building altogether, even in those countries which remained Catholic, except in Italy, and there the revived classical style had wholly superseded the Gothic. The case, however, was widely different in Spain. Here the old faith was never shaken. The country had but lately become, by the marriage of Ferdinand and Isabella, for the first time a united monarchy. In their reign the discovery of Columbus had opened to Spain a new world and the most brilliant

prospects. The final expulsion of the Moors had thrown into the hands of the Church unbounded wealth and power, and at the same time inspired it with the zeal which has ever prompted the expenditure of such wealth on monuments for public use before it became absorbed in individual selfishness. All these causes made this the great cathedral-building age of Spain, and had the Spaniards designed with the bold simplicity of their forefathers, the money then spent would have covered the land with the noblest buildings Europe could boast of. But the spirit of former times was past, and the expenditure was frittered away on carved ornaments of most elaborate minuteness, and on details which are mere proofs of wealth and degraded taste. These characteristics are peculiar to Spain, where alone this transitional style can be studied with completeness or advantage. Notwithstanding its defects, it is, it must be confessed, a fascinating display of brilliant littleness, the best of its kind, and in its prettiness often making us forget that there is something better and higher which neither wealth nor power can command unless combined with the simplicity of true greatness.

CHAPTER II.

SPAIN AND PORTUGAL.

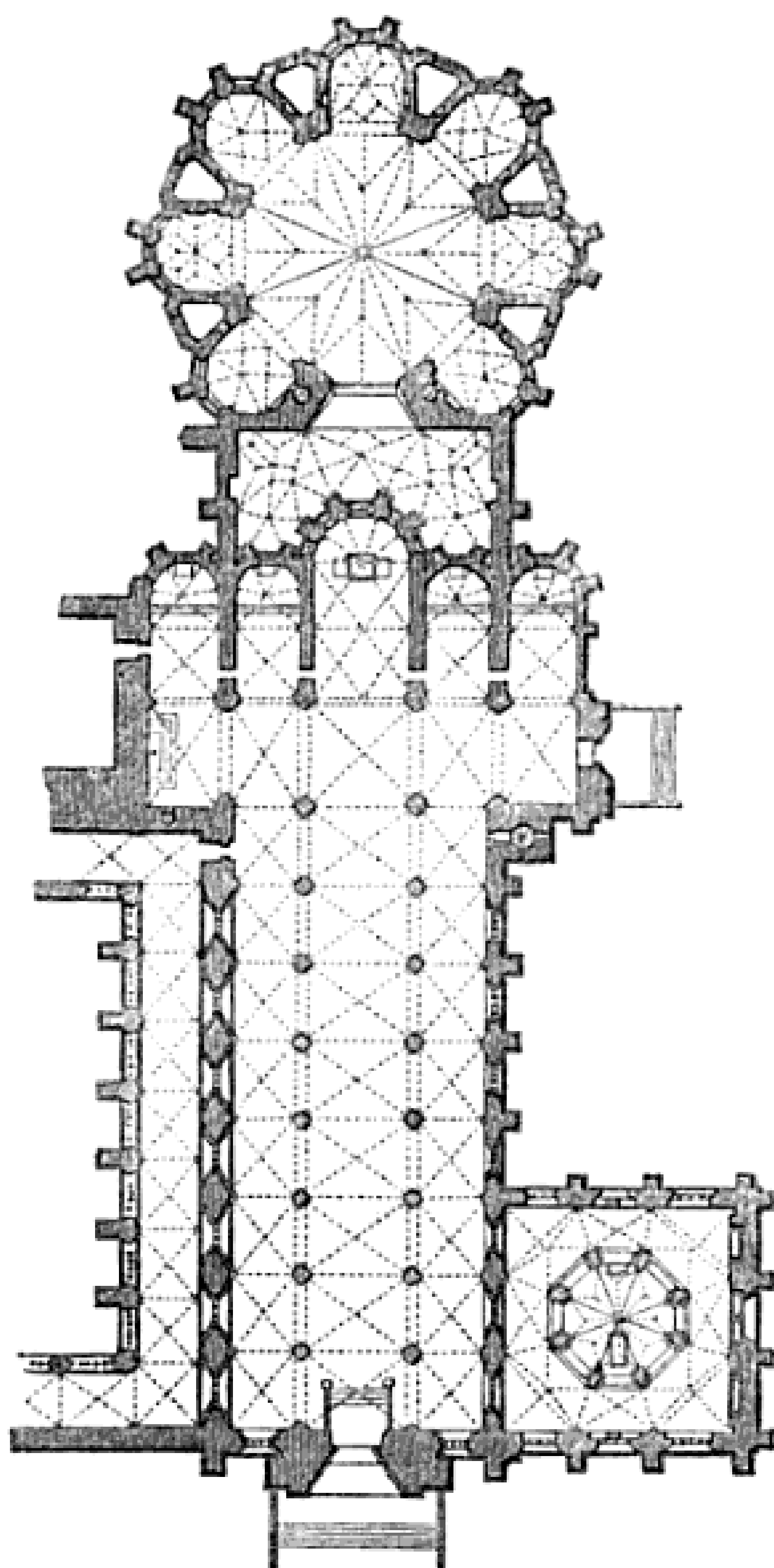
CONTENTS.

Portugal — Church of Batalha — Cloisters — Castles — Moresco style — Towers.

So little attention has been paid to the subject of Gothic architecture in Portugal, that it is by no means clear whether it contains any churches of interest belonging to that style. There are certainly some remains at Belem near Lisbon, and some fragments at least elsewhere; but those who have described them are so little qualified for the task by previous study, that it is impossible to place reliance on the correctness of their assertions regarding them. One church, however, that at Batalha, has met with a different fate, and having arrested the attention of Mr. Murphy, "the illustrator of the Alhambra," was drawn and published by him in a splendid folio work at the end of the last century. As might be supposed from the date of this work, the illustrations do not quite meet the exigencies of modern science, but it is at all events by far the best illustrated church in the Peninsula. It seems in some respects to be worthy of the distinction, being probably the finest church in the kingdom.

It was erected by King John of Portugal, in fulfilment of a vow made during a battle with his namesake of Spain in the year 1385, and completed in all essentials in a very short period of time. From the plan (woodcut No. 669) it will be seen that the form of the original church is that of an Italian basilica—a three-aisled nave ending in a transept with five chapels; the whole length internally being 264 ft., the width of the nave 72 ft. 4 in. It is therefore a small building compared with most of the Gothic churches hitherto described. To the right of the entrance, under an octagonal canopy which once supported a German open-work spire, are the tombs of the founder and of his wife Philippa, daughter of John of Gaunt; beyond this the octagon expands into a square, in a very Eastern fashion, to accommodate the tombs of other members of the royal family who are buried around. The whole design of this part is one of the most suitable for a family sepulchre to be found anywhere. The wonder, however, of the Batalha, or rather what would have been so had it been completed, is the tomb-house which Emanuel the Fortunate commenced for himself to the eastward of the church. Similar chapels at Burgos and Murcia have already been noticed, but this was to have surpassed them all, and if completed would have been the most gorgeous mausoleum erected during the middle ages.

It is curious to observe how the tradition of the circular tomb-house behind the altar remained constant in remote provinces to the latest age. The plan of this church is virtually that of St. Benigne at Dijon, of St. Martin at Tours, and of other churches in Aquitania.[1] It is easy to see how by removing the intermediate walls this basilica would become a chevet church, complete except for the difference in the span of the two parts of the building. Had the mausoleum been finished, something of that sort would probably have been done.



669. Plan of the Church at Batalha. From Murphy. Scale 100 ft. to 1 in.

The plan of this tomb-house is interesting as being that of the largest Gothic dome attempted, and shows how happily the Gothic forms adapt themselves to this purpose, and how easily any amount of abutment may be obtained in this style with the utmost degree of lightness and the most admirable play of perspective; indeed no constructive difficulties intervene to prevent this dome having been twice its present diameter (65 ft.); and had it been so, it would have far surpassed Sta. Maria del Fiore and all the pseudo-classical arrangements that have since disfigured the fair face of Europe.

Generally speaking, neither the proportions nor the details of this church are good; it was erected in a country where the principles of Gothic art were evidently misapprehended or unknown, and where a lavish amount of expenditure in carving and ornament was thought to be the best means of attaining beauty. The church from this cause may almost be considered a failure; its two sepulchral chapels being in fact by far the most interesting and beautiful parts of the structure. It is observable how much better the open-work spire agrees with the semi-Oriental decoration of the churches both of Burgos and Batalha than with the soberer forms

[1] See Part II., Book III., Chap. II., particularly woodcuts 494, 496.

of the more Northern style. One would almost be tempted to fancy that the Germans borrowed the idea from Spain rather than that the latter country imported it from the North. Till we know more of the age of the cathedrals of Leon, Oviedo, and other cities of the north of Spain, this point cannot be determined; but it seems by no means certain that such further knowledge will not compel the Germans to resign their claim to this their only alleged invention in the pointed style.

Next in importance to that at Batalha is the church at Alcobaça, commenced in the year 1148, and finished in 1222. It is a simple and grand Cistercian abbey-church, not unlike that at Pontigny (woodcut No. 558) in style. Its total length is 360 feet; its height about 64. The nave is divided from the side aisles by 12 piers, the arches of which support vaults of the same height over the three divisions—a circumstance which must detract considerably from the beauty of its proportions. The east end is terminated by a chevet (called by the Portuguese a *charola*) with 9 chapels.

The monastery which was attached to this church, and which was one of the most splendid in the world, was burnt by the French in their retreat from Portugal.

At Coimbra there are still some remains of Gothic churches; the principal of these is the old cathedral, which, though much destroyed, still retains many features belonging to the early part of the 12th century, when it was built.

In the same town is the church of Sta. Cruz, rebuilt by French architects in the year 1515, in the then fashionable flamboyant style of their country; and in complete contrast to this is the small but interesting Round Gothic church of St. Salvador, erected about the year 1169 A.D.

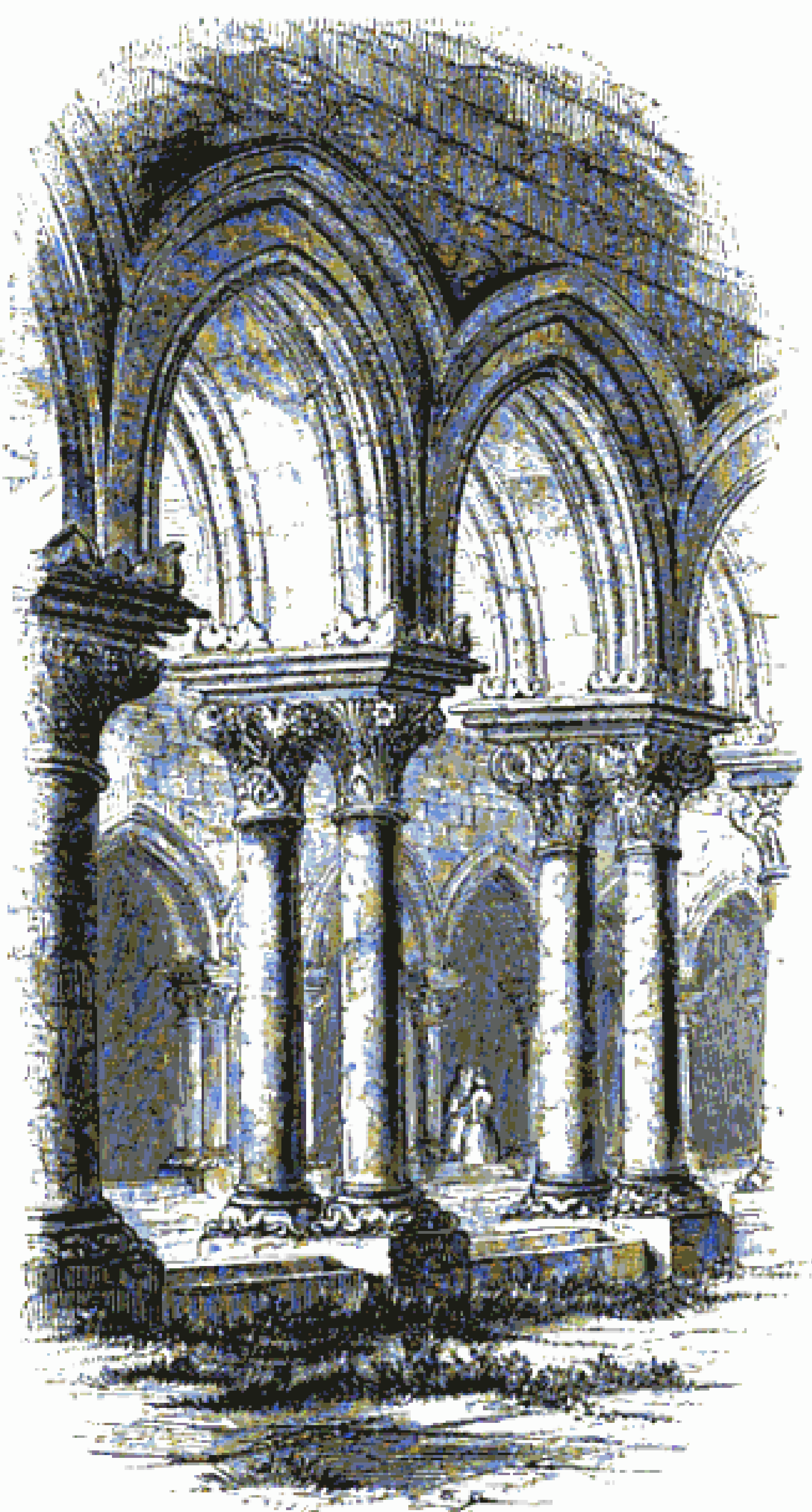
The other churches, such as those of Braga, Guimaraens, &c., seem to have been of late flamboyant style, and generally are so much modernised that the little beauty they ever possessed is concealed or destroyed by modern details.[1]

Cloisters.

As might be expected from the enormous wealth of the Spanish clergy, and the number of convents and establishments of that class, the country is rich in cloisters and in the usual monastic buildings that accompany them. The older cloisters are very similar in design to those of the south of France. That at Gerona is perhaps heavier and more massive than any found in that country; but that of the royal convent of the Huelgas, near Burgos (woodcut No. 670), is unrivalled for beauty both of detail and design, and is perhaps unsurpassed by anything of its age and style in any part of Europe. With

[1] On the whole, perhaps, the assertion contained in the 'Handbook of Portugal' is not exaggerated. It is there said that "no European country has less interesting ecclesiology than Portugal: there are certainly not 150 old churches in the kingdom; the French invasion, the great earthquake, and the rage for rebuilding in the 18th century have destroyed nearly all."

those of Germany, France, and Sicily, it makes up a series of arcaded alleys as exquisitely beautiful as are to be found in any other age or clime. In the 14th century the Spaniards adopted the universal fashion of making their cloisters with unglazed windows, being impelled to this by the necessities of the mode of vaulting which then came into use. Although this certainly appears to have been a mistake, still it accorded with Spanish details perhaps more happily than with those of any other country; for the rich abundance of ornament which was offensive in a large and solemn church was appropriate in a cloister, and as the climate naturally impelled the Spaniards to indulge in the luxury of deeply-shaded arcades, it is little wonder that we find them so successful in their treatment of this indispensable adjunct to a church of any consideration.

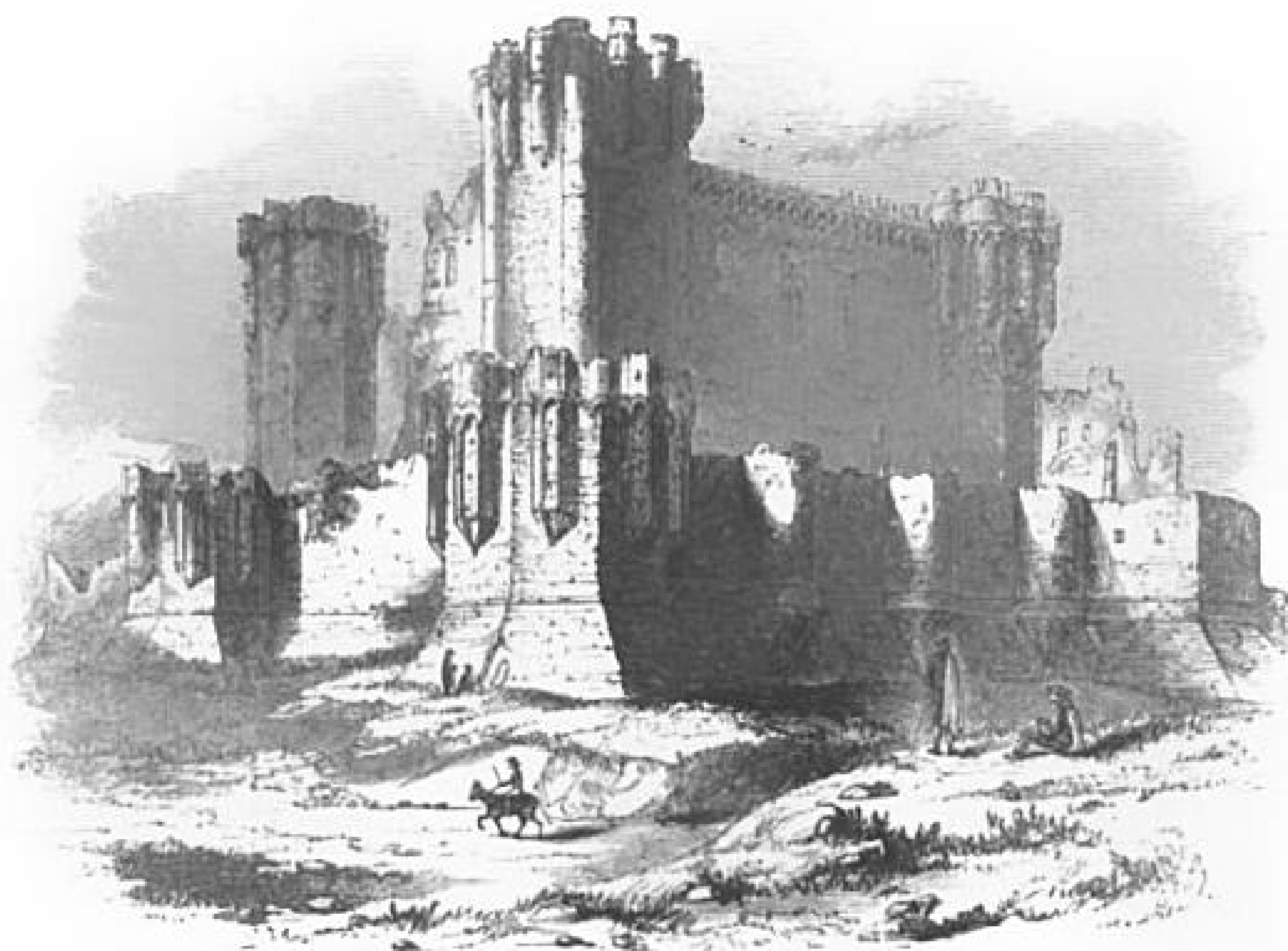


670. Cloister of the Huelgas, near Burgos. From Villa Amil.

The other parts of the monastic buildings are almost wholly unknown to us, either from the drawings of artists or the descriptions of travellers—a deficiency perhaps not wholly owing to neglect on their part, but in some measure to the circumstance of the monasteries and the cathedral closes having been occupied up to the present day. When this is the case, it is almost impossible but that they must have been modernised to suit the tastes and exigencies of successive times, and have lost in consequence all the grace and beauty they once possessed. Many fragments exist in the remoter parts of the country; and as they were the residences of the richest clergy of Europe, they cannot fail to reward the research of any careful inquirer.

Castles.

Though the cloisters have thus in most instances been modernised, it is not so with the castles, which have escaped alteration owing to



671. Castle of Cocos, Castille. From Villa Amil.

their use having passed away, while their greater solidity and strength have better enabled them to resist the effects of time. Many of them, with their tall towers and clustering turrets, still strike the traveller on the plains of Castille, and tell of a people differing essentially from those of all other nations of Europe, and no less so from those in the more southern and eastern regions of Spain itself.

If we may judge by such drawings as we have, the castle of Cocos in Castille (woodcut No. 671) is one of the best preserved and most characteristic of those now remaining, and certainly is a fair specimen of its class, uniting in itself most of the features of the mixed style to which it belongs. The Alcazar at Segovia is another well-known and singularly picturesque castle, having the advantage of standing on a tall rocky base, to which it fits most artistically. Others might be selected, but such military examples hardly come sufficiently within the domain of architecture as a fine art to require further examination in such a work as this.

Moresco Style.

The history of the Moresco or Mozarabic style is quickly told and easily understood. It was impossible that a rude, half-civilized people like the Goths or Iberians of the north of Spain could come in contact with the polished and highly-civilized occupants of the southern portion

of the Peninsula without being captivated, as modern architects have been, with the elegant and beautiful style of architecture used by that people. These early mountaineers had only their own massive and intractable style—bold, vigorous, and picturesque, but singularly incapable of development without the introduction of some new principle to modify its form.

Had the Spaniards been influenced merely by local causes, there can be no doubt that they would have engrafted the Saracenic on their then round-arched style, and produced a Gothic, probably a pointed style, which would have been extremely different from that of the North; and had they been either an inventive or an architectural people, of which they never showed any symptom, the Spanish style

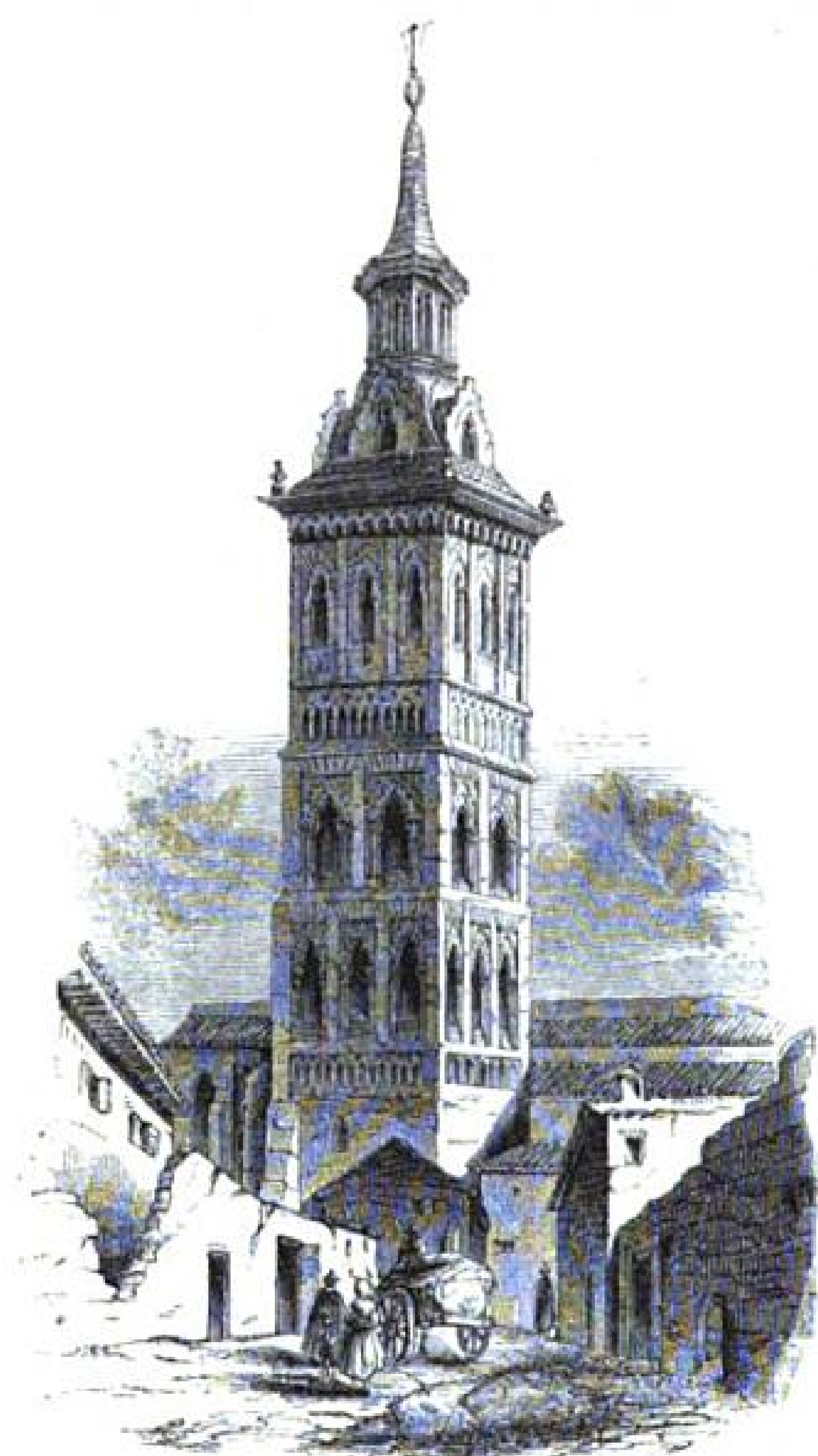


672 Chapel at Humanejos. From Villa Amil.

might have rivalled that of the North. A strong religious antipathy to the works of the infidels led them, in preference, to borrow from their Northern neighbours a style not peculiarly suited to their climate, and which they never perfectly understood. In some few and comparatively insignificant instances they adopted the native style, with only such slight modifications as were required for their purposes, and made out of it a mixture so picturesque, and so evidently capable of better things, that we cannot but regret the limited extent to which this adaptation was carried, productive as it was of much novelty and beauty.

The dates of all the specimens of this mixed style are so little known that it is by no means clear whether any which we now possess were erected by the Christians under the tolerant rule of the

Moslems, or whether they were all built at a later time by Moorish workmen under the Christian rule. All those with which I am acquainted were erected after the re-conquest by the Christians of the localities in which they are found; but this by no means contradicts, indeed rather favours, the belief that they were a continuation of other edifices of the same class in which they or their forefathers had worshipped when the land belonged to the stranger.



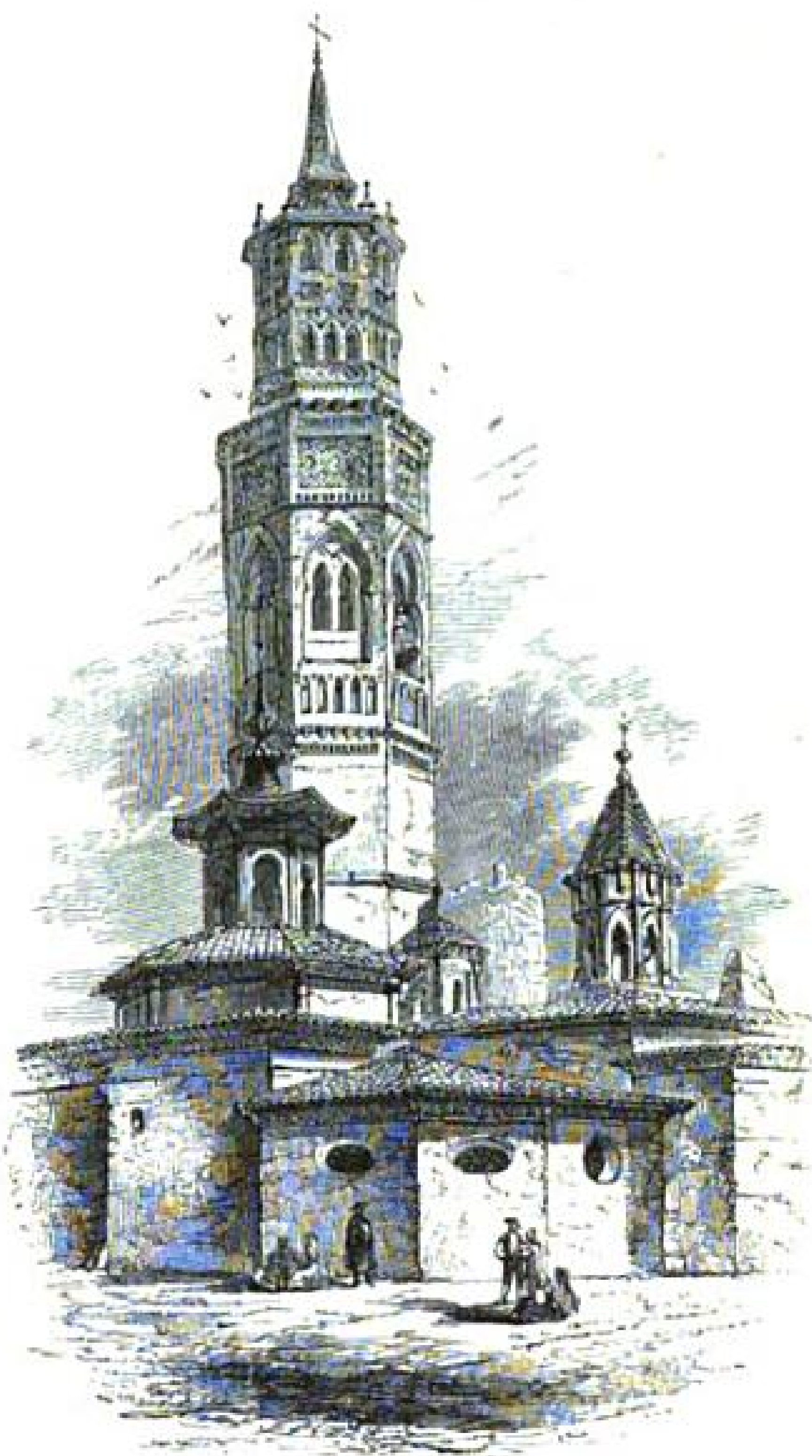
673. Tower at Illescas. From Villa Amil.

The greater number of the examples are to be found in Toledo and the south, but they are by no means confined to that district, and indeed some of the most perfect are in the northern division of the country. One of the most picturesque, as well as most purely Moorish, of those that have been drawn is the little deserted chapel of Humanejos, in Estremadura (woodcut No. 672); and were it not for its form, which is essentially Christian, and the tracery in its windows, it might very well pass for a Saracenic ruin. The latter peculiarity not only assigns the building to a Christian origin, but if coeval, which it seems to be, fixes its date as not earlier than the 13th century.

Another example of the same class is the fragment that now remains of the once celebrated basilica of Sta. Leocadia, in the Vega, under the walls of Toledo. This certainly was not erected before the year 1130, when the church was first restored by Alphonso VI., immediately on his recovering the city; but we read of subsequent rebuildings down to 1300, and it is by no means improbable that this example may belong even to as late a date as that.

In the same city the church of St. Roman is built in the same style, and many others show fragments of Moorish architecture. Some of the chapels of the cathedral, which were certainly erected in the 13th

or 14th centuries, are so Moorish that many have been inclined to suppose them to have been fragments of the old mosque which the cathedral replaced. There is, however, no ground for such a supposition: they are undoubtedly of Christian origin; and though curiously blended, as in Sicily, with Saracenic features, their form betrays beyond a doubt the religion of their builders and their date. This is even more the case in a beautiful chapel in the monastery of the Huelgas, near Burgos, which, but for some Gothic foliage of the 14th century, introduced where it can hardly be observed, might easily pass for a fragment of the Alhambra. The same is true of many parts of the churches at Seville. That of La Feria, for instance, and the apse of the church of the Dominicans at Calatayud, are purely in this style, and most beautiful and elaborate specimens of their class.



674. St. Paul, Saragoza. From Villa Amil.

Perhaps the Christians adopted the light and elegant forms of the Moorish style principally in their towers, and frequently with a degree of beauty which their own Gothic style seldom surpassed. The tower of the church of Ilescas (woodcut No. 673), not far from Madrid, is a singularly elegant specimen, and will bear comparison with many of the best age of Gothic art. The tower and roof of the church of St. Paul at Saragoza (woodcut No. 674) are even more characteristic, for besides their form, they are covered with glazed tiles in all the brilliant hues of Tartar art, revealing the existence of that foreign element in this remote corner of Spain to an extent hardly suspected. The whole exterior of this church is indeed so foreign in its aspect that we might mistake the sketch for one taken in the Crimea or near the roots of the Caucasus, rather than in Catholic Spain.

The church of St. Thomé at Toledo has a tower so perfectly Moor-

ish in all its details, that but for its form it might as well be classed among the specimens of Moorish as of Mozarabic architecture. Throughout Spain there are many of the same class, though undoubtedly erected by the Christians. In this country, as in Sicily, it is never safe to assume that because the style is Moorish, even purely so, the structure must belong to the time when they possessed the country, or to a happy interval, if any such existed, when a more than usually tolerant reign permitted them to erect edifices for themselves under the rule of the Christian conquerors.



675. Doorway from Valencia. From Chapuy.

Sometimes we find Moorish details mixed up with those of Gothic architecture in a manner unknown in any other country, as for instance in the doorway illustrated in woodcut No. 675, from the house of the Ablala at Valencia. The wood-work is of purely Moorish design, the stone-work of the bad unconstructive Gothic of the late Spanish architects, altogether making up a combination more picturesque than beautiful, at least in an architectural point of view.

In a more extended work it might be useful and instructive to follow this class of buildings further; for though they perhaps never rose to the dignity of a separate and independent style, this was one of those happy combinations which often lead to the greatest beauty. We have seen how the development of this style was prevented by the intolerance and bigotry of the people among whom it arose; but for this it might have produced an architecture more perfect in itself than either of the parent styles. But whether this would have been the case or not, it is certain that to this infusion of the Moorish art Spanish architecture owes anything it may have that is peculiar to it, or preferable to the Northern Gothic. As mere basilicas, these churches are certainly inferior to those of France; but the abundance of ornament, the delicacy of finish, and the poetic abandon that run through every detail, and fascinate the beholder, are almost wholly to be ascribed to the more or less prominent Mozarabic feeling that pervades all Spanish art, till the fatal day when German and Italian influence caused all this to be abandoned for the cold inanities of a pseudo-classical revival.

BOOK VIII.

ENGLAND.

CHAPTER I.

CONTENTS.

Saxon buildings: Norman — Canterbury — Other Norman Cathedrals: Early English — Salisbury — Westminster Abbey — Windows — Styles of Tracery: Edwardian Style — Wells — York — Ely — St. Stephen's Chapel — Wooden Roofs: Tudor Style — Royal Chapels.

CHRONOLOGY.

		DATES.			DATES.			DATES.
William I.	Accession, A.D.	1066	Edward I.	Accession, A.D.	1272	Henry VI.	Accession, A.D.	1422
Henry I.	" . .	1100	Edward II.	" . .	1307	Richard III.	" . .	1483
Henry II.	" . .	1154	Edward III.	" . .	1326	Henry VII.	" . .	1485
Richard I.	" . .	1189	Richard II.	" . .	1377	Henry VIII.	" . .	1509

The history of Gothic architecture in England has of late years occupied the attention of so many competent persons, and been written so fully and in such a variety of forms, that little that is new remains to be said on the subject. Such a mass of information, both scientific and popular, is to be found in the works of Britton and the elder Pugin, with those of Rickman, Willis, Sharpe, and others, that there are few points on which the student may not easily satisfy himself.

It is true that a general and complete account of the style is still a desideratum, and one which it is impossible to attempt to supply in such a work as this. All that can be done is to place the style in its true light with reference to those already described, to point out those peculiarities in which it resembles and those in which it differs from the Continental Gothic, and generally to assign to it its proper place among the architectural creations of mankind. At the same time the mass of information respecting so many varieties of style given in the preceding pages will enable us to appreciate the true value of our own, and to understand the prominent characteristics which distinguish it from other cognate or contemporary styles.

As in all other countries of Europe, the style may be naturally divided into two great branches, the round arched and the pointed arched. The former as easily subdivides itself into the Saxon and the

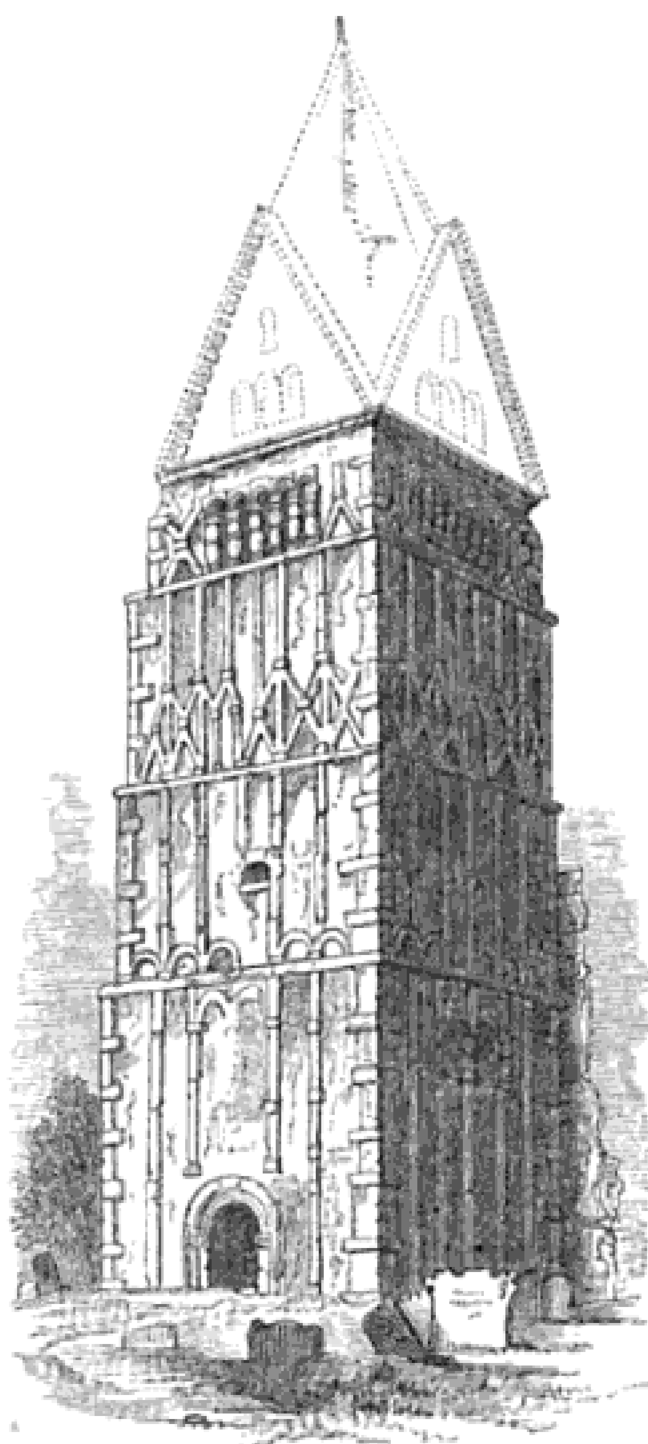
Norman; the latter, as before pointed out (p. 475), may conveniently be divided into Plantagenet, Edwardian, Lancastrian, and Tudor; the periods of transition between each of these falling by a curious coincidence in the reigns of the three Richards. These divisions are, it is true, somewhat indefinite, but they are necessarily so, as the changes were frequently slow, and began, or were nearly perfected, in one part of the country or in one building, before they were thought of elsewhere; and in no place were they suddenly introduced so as to enable us to fix the exact year or mode of their introduction. The fact is, that it was a constant progression from a rude to a highly finished and elegant style; the improvements taking place steadily from year to year up to a certain point, and then declining as steadily to the Elizabethan period, without any resting-place being found in the whole series, so that all attempts at a more rigid classification only lead to false impressions or to error, and the sooner they are abandoned the better.

Saxon.

By Saxon architecture is meant of course the works of the Saxons in England before the Norman Conquest in 1066. The remains of it, however, are so few and insignificant that it is difficult to say exactly what it was. It is true 120 churches are enumerated in the last edition of Rickman which show traces more or less distinct of this style, but among these there is no one instance of a complete Saxon church built before the Conquest; in some there is a tower, in others a fragment of walling, in others only a door or a window. These scattered remains suffice to enable us to assert that the style was rude and the details clumsy as compared with the few specimens that remain upon the Continent of the Carlovingian era. Indeed, the state of England was singularly inimical to the development of any of the arts of peace, for with the exception of the one brief but bright period of Alfred's reign, the country was either torn to pieces by domestic troubles or devastated by foreign invasions, so that no resting time was given for perfecting the native arts or for erecting durable monuments. Had any of the cathedrals of the Saxon epoch survived to the present day, it might perhaps tend to modify this opinion; but every one of these was rebuilt either during the Norman or subsequent periods, and not one vestige of their superstructure remains. We have of one only a sufficiently clear account to enable us to form an opinion of what its plan and dispositions were. The description left by Edmer the Singer of the Saxon cathedral of Canterbury, which he saw before it was rebuilt by Lanfranc in 1070, suffices to prove that it was a double apse cathedral, like those of Germany, with lateral entrances, one on the north, the other on the south side. Behind the eastern apse was a circular baptistery erected by Cuthbert the eleventh archbishop, "for," says our author, "the following purposes: that baptisms might be celebrated therein; that certain judicial trials that were formerly carried on in the church might be held there; and lastly, that the bodies of the archbishops might therein be buried,

thus departing from the ordinary ancient custom of burial beyond the walls of the city."[1]

It is interesting to find the transitional date so exactly fixed when the baptistery and tomb-house were thus confounded, and the judicial church separated from the basilica. After the time of Edmer, the prelates were buried within the walls of the cathedrals. It is probable that the work executed by Lanfranc was an extension, and not a total rebuilding of the old structure. In that case the baptistery was converted, if with an internal range of pillars, into a chevet—if without pillars, into an apse. All remains of the original Saxon cathedral have since perished. It probably was only a little less rude than the parochial churches of which we have so many fragments. Its loss is perhaps in itself not much to be regretted, though, if we knew more about it, it would enable us to explain many of the peculiarities of the Norman cathedrals which still remain a mystery from our ignorance of what preceded them. We may safely, however, ascribe to Saxon influence all those peculiarities in which the English style differs from the Continental Norman, and, were it worth while, we might by this path arrive at some conclusions regarding Saxon architecture.



676. Tower of Earl's Barton Church. From Britton's Architectural Antiquities.

The tower of Earl's Barton in Northamptonshire combines in itself more of the characteristics of the Saxon style than any other specimen known. As shown in the woodcut (No. 676), the angles are decorated by a peculiar rustication of stones placed alternately horizontally and vertically. Where surface decoration is attempted, it consists of long pilaster-like slips joined by small circular or straight-sided arches. This possibly may be the barbarian imitation of the "junceæ columnæ" of Cassiodorus mentioned above,[2] and shown in the apse of the cathedral at Verona (woodcut No. 420).

The windows are always small, and generally divided by short stumpy balusters.

The roofs of the towers seem generally to have taken a form like

[1] Edmer, Vita S. Bregwini, Aug. Sac., tom. ii. p. 186.

[2] Page 542.

that of Paderborn (woodcut No. 451), or sometimes with only two steep gables. Painting seems to have been the favourite mode of decoration, and consequently we find but little carving on the doorways or elsewhere.

Internally the pillars in Saxon buildings were probably so clumsy and rude that they have been in almost all instances removed to make way for more convenient arrangements.

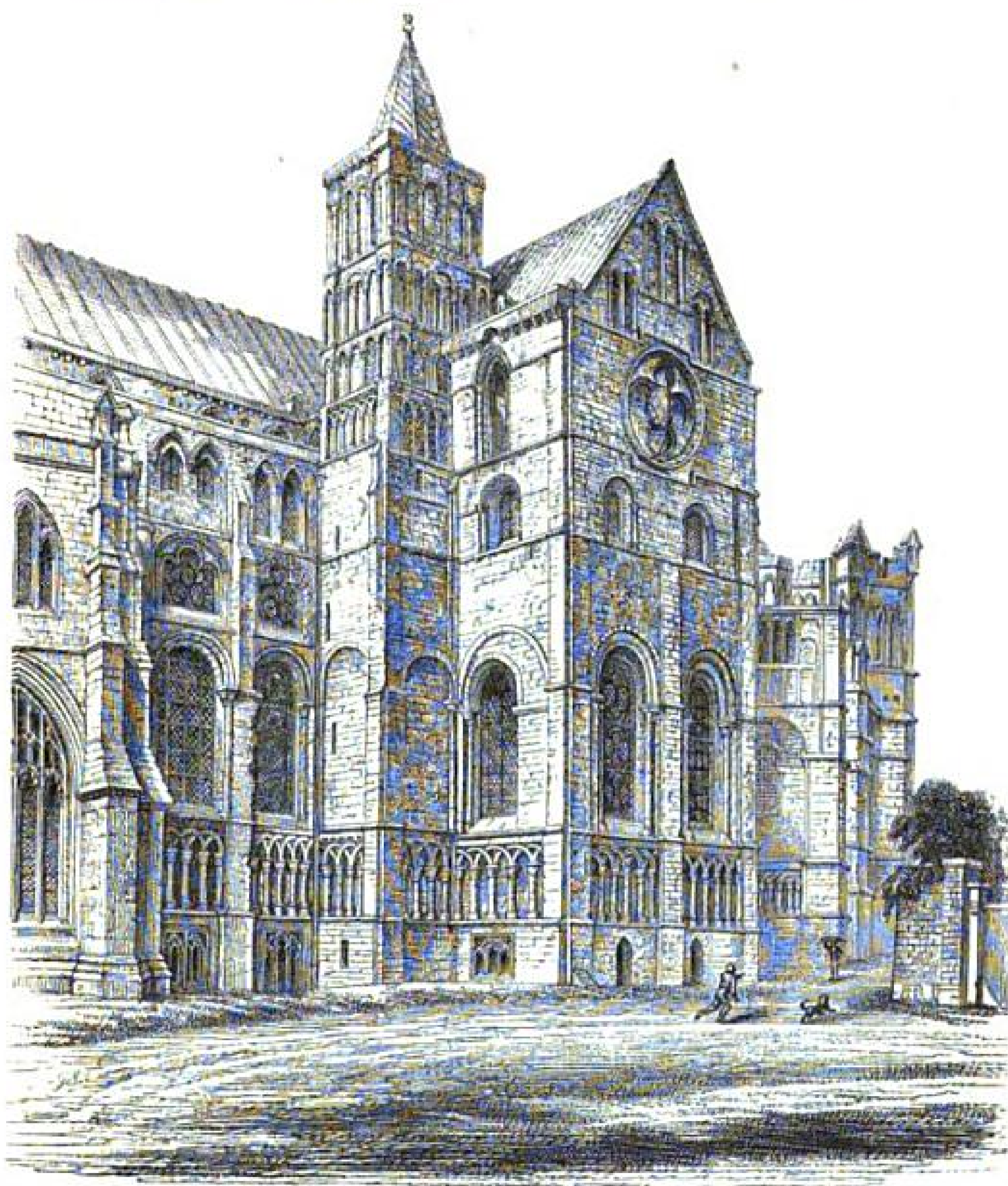
Norman.

What the Normans brought over with them was not so much a new style as a bolder and more perfect manner of treating one already in use, together with better constructive processes, and altogether a more perfect conception, arising from considerable experience of the true nature of architectural design, and the true mode of producing the desired effect. Thus Norman architecture introduced so many novelties, as to form an entirely new era in that used by the Saxons. Perhaps the novelties in question were as much owing to the new institutions introduced by the Conquest as to the new architectural processes invented in France. The confiscation or appropriation of the estates of the Saxons had thrown immense wealth into the hands of the followers of William, and enriched the aristocracy, both feudal and ecclesiastical, to an extent previously unknown. Besides this, the centralization of power and the more rigorous administration of the laws afforded that leisure so indispensable for the successful prosecution of any branch of the fine arts. These causes would alone have sufficed to make an epoch in architecture, and, combined with the knowledge which the conquerors had acquired in the art, effected a complete revolution.

As might be expected, the earliest specimens of the new style are those that most resemble the Continental Norman, so that in the works of Gundulph at Rochester, and Walkelyn at Winchester, as well as in what remains of Lanfranc's building at Canterbury, there is scarcely any difference from the Continental Norman except such as may fairly be ascribed to the inexperience and clumsiness of the workmen employed.

By the beginning of the 12th century the style had been to a great extent naturalized, and assumed a separate existence. This is well exemplified in Durham cathedral, a building differing in every respect from anything on the Continent, and which, were it worth while to invent new names, should be called either Saxon Normanized or Norman Saxonized, but certainly not Norman. By whatever name we may agree to designate it, this is one of the finest specimens of architecture in the kingdom. Bold, massive, and grand, it affords a striking contrast to later examples, such, for instance, as the nave of York, which, though spacious and elegant, and presenting a degree of refinement in every process and every detail to which Durham cannot pretend, is not nearly so imposing as the rude grandeur displayed by the latter, notwithstanding its far smaller dimensions.

On the other hand, the Galilee [1] of Durham cathedral is far more essentially English than anything erected in the subsequent century, and, with the infirmary chapel at Ely, shows how far the style of wooden roofing had encouraged the native architects to attenuate the supports of their buildings, and how they had learned to adapt to their purposes the zigzag and interlacing arches of the earlier style. Indeed, the buildings of the last half of the 12th century show that the



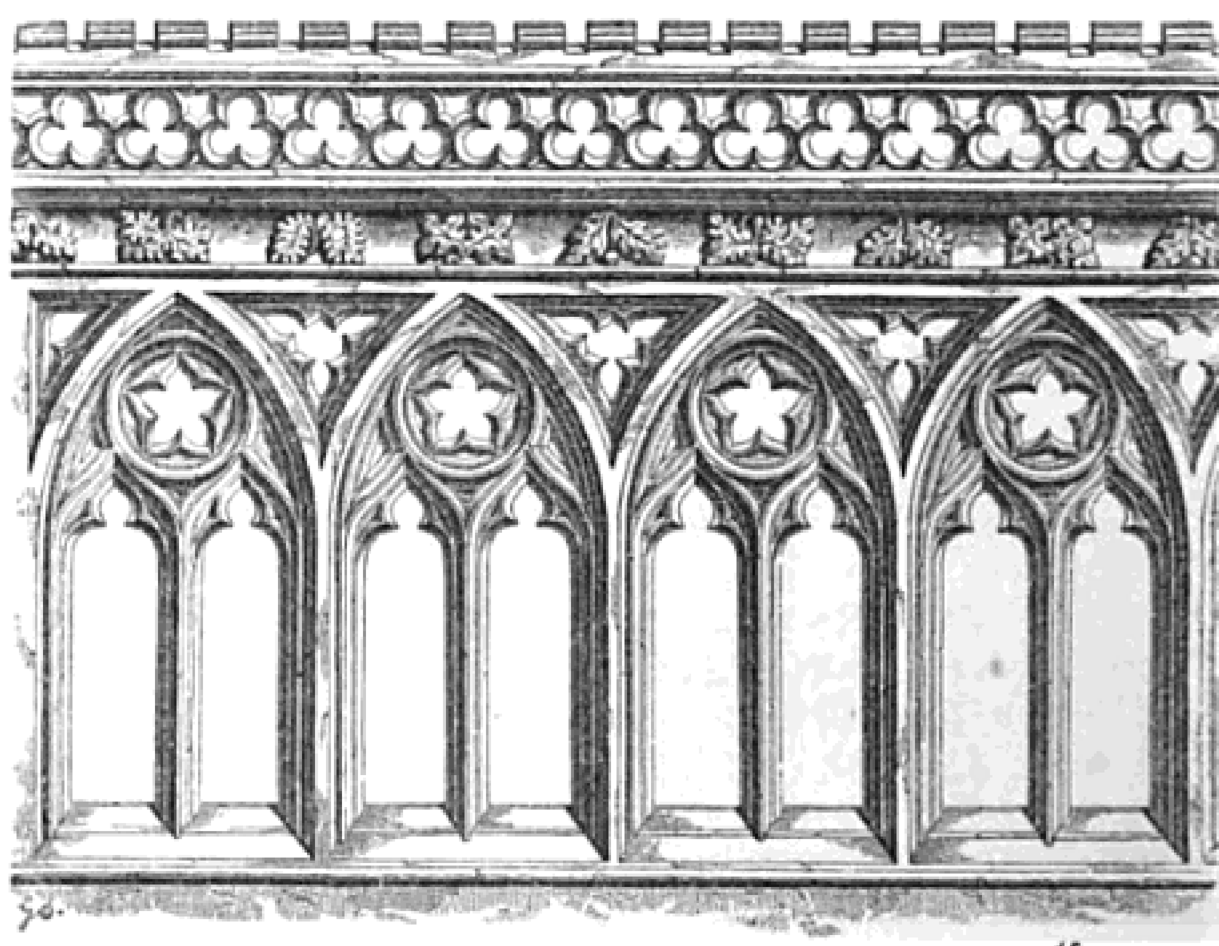
677. South-Eastern Transept, Canterbury Cathedral.

English were making considerable progress in the elaboration of a perfect round-arched Gothic style, which probably would have rivalled or surpassed that of the Germans; but, like them, though nearly half a century earlier, they fell under French influence, and for a while were content to be copyists, till familiarity with the style again

[1] Erected by Bishop Pudsey in the last year of his episcopate, which terminated 1197.

enabled them to assert their independence, and become, at least to a certain extent, inventors of a new and original form of the universally prevailing architectural style of the age.

The date of the introduction of the pointed arch in England—for it may be considered as established that it was *introduced*—is a question which has been much discussed, but is by no means settled. My own impression is that it was at the rebuilding of the cathedral of Canterbury after the fire of 1174 that the style was first fairly tried. The architect who superintended that work for the first five years was William of Sens; and the details and all the arrangements are so essentially French, and so different from anything else of the same age in England, that his influence on the style of the building can



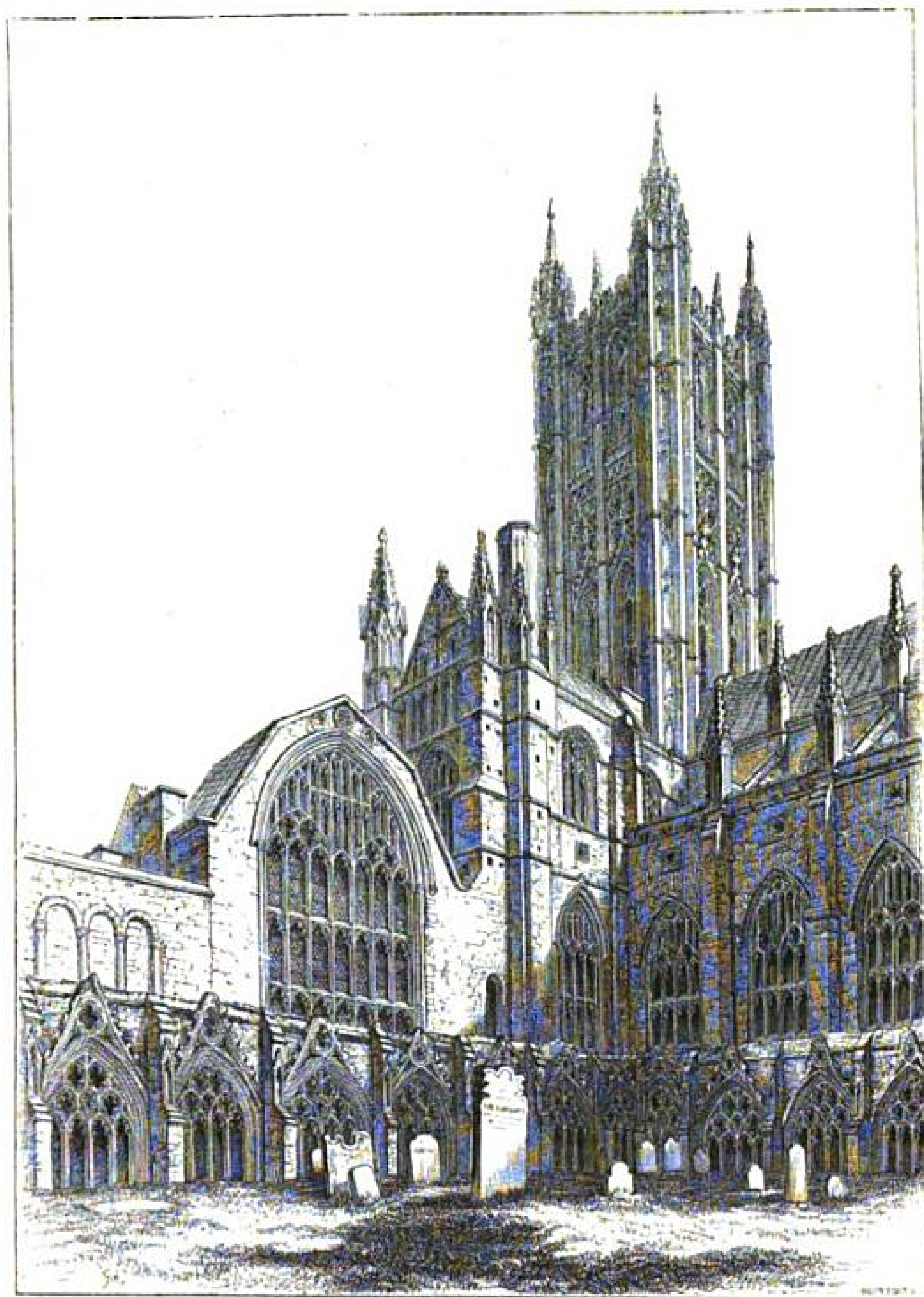
678. Prior de Estria's Screen, Canterbury Cathedral.

hardly be doubted. Of course it is not meant to assert that no earlier specimens exist; indeed, we can scarcely suppose that they did not, when we recollect that the *pointed arch* was used currently in France for more than a century before this time, and that the *pointed style* was inaugurated at St. Denis at least thirty years before. Still this is probably the first instance of the style being carried out in anything like completeness, not only in the pier arches and openings, but in the vaults also, which is far more characteristic.

Even after this date the struggle was long, and the innovation most unwillingly received by the English, so that even down to the year 1200 the round arch was currently employed, in conjunction with the pointed, to which it at last gave way, and for three centuries was banished entirely from English architecture.

Like the greater number of English cathedrals, that at Canterbury was commenced shortly after the Conquest, and the building of it con-

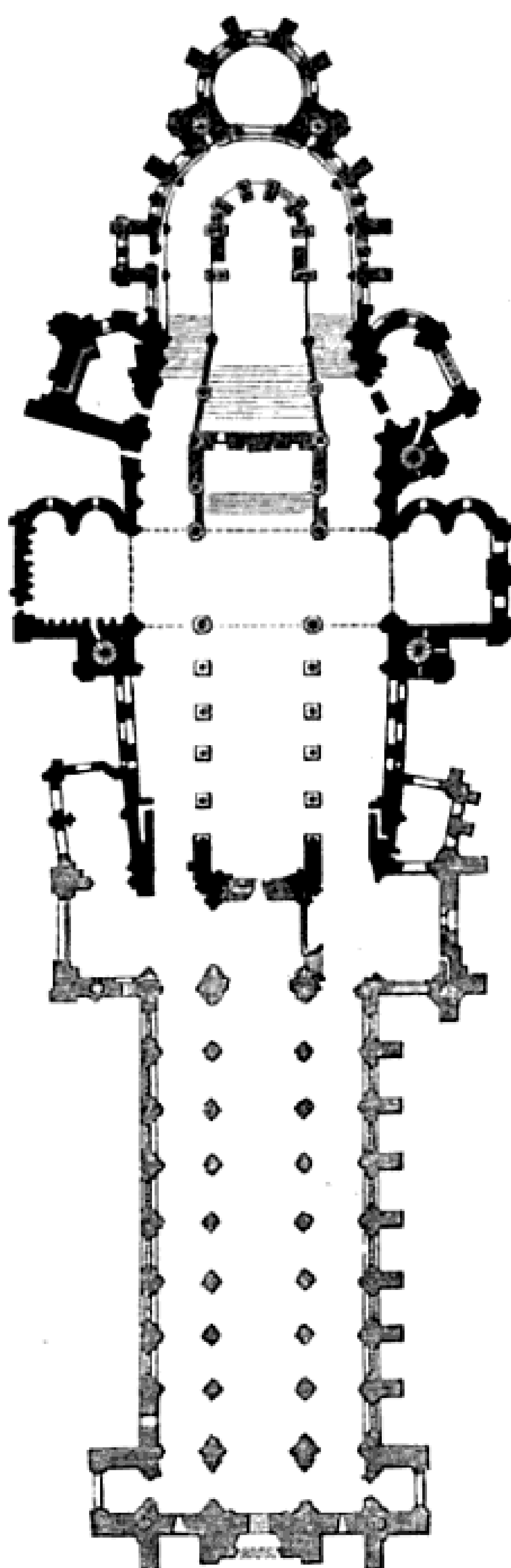
tinued down to the Reformation. As it is one of the most important and interesting of all, a somewhat detailed description of it may render what follows more intelligible.



679. View of the Chapter House and Angel Tower, Canterbury. From a drawing by G. Scharf.

When Lanfranc, Abbot of Caen, was appointed by the Conqueror, in 1070, to the see of Canterbury, he found the old Saxon cathedral in ruins, having been destroyed by fire some years previously. He commenced a new one exactly on the same plan and of the same dimensions as the church of St. Stephen at Caen, consisting of a nave and transept,

shaded light in the plan (woodcut No. 680), and with a choir, an exact copy of that shown in fig. 1, woodcut No. 521. The one great difference was, that the roof of the central aisle of the English church, and probably that also of the side aisles, were of wood, while the corresponding parts in the French example were vaulted with stone. Twenty years after the completion of this, or in the year 1096, the choir was enlarged by Archbishop Conrad, in the same manner as that at Caen, though on a somewhat different plan, as is shown by comparing the part shaded dark in the plan with the woodcut just referred to. On this occasion the side aisles were vaulted, but the central roof was still of wood. Owing probably to this circumstance, it was again destroyed by fire in the year 1174. The rebuilding, or rather repair, was commenced by William of Sens in the following year. The crypt still remains as left by Conrad, so also do the lower parts of the walls of the choir; but above that the whole choir, as we now see it, was the work of this period. Its external appearance may be judged of from woodcut No. 677. It explains well the transitional character of the period; for though the pointed arch is used commonly internally as a constructive feature, it is only timidly that it is allowed to appear in the decorations, till near the roof, which part of the wall was of course somewhat later.

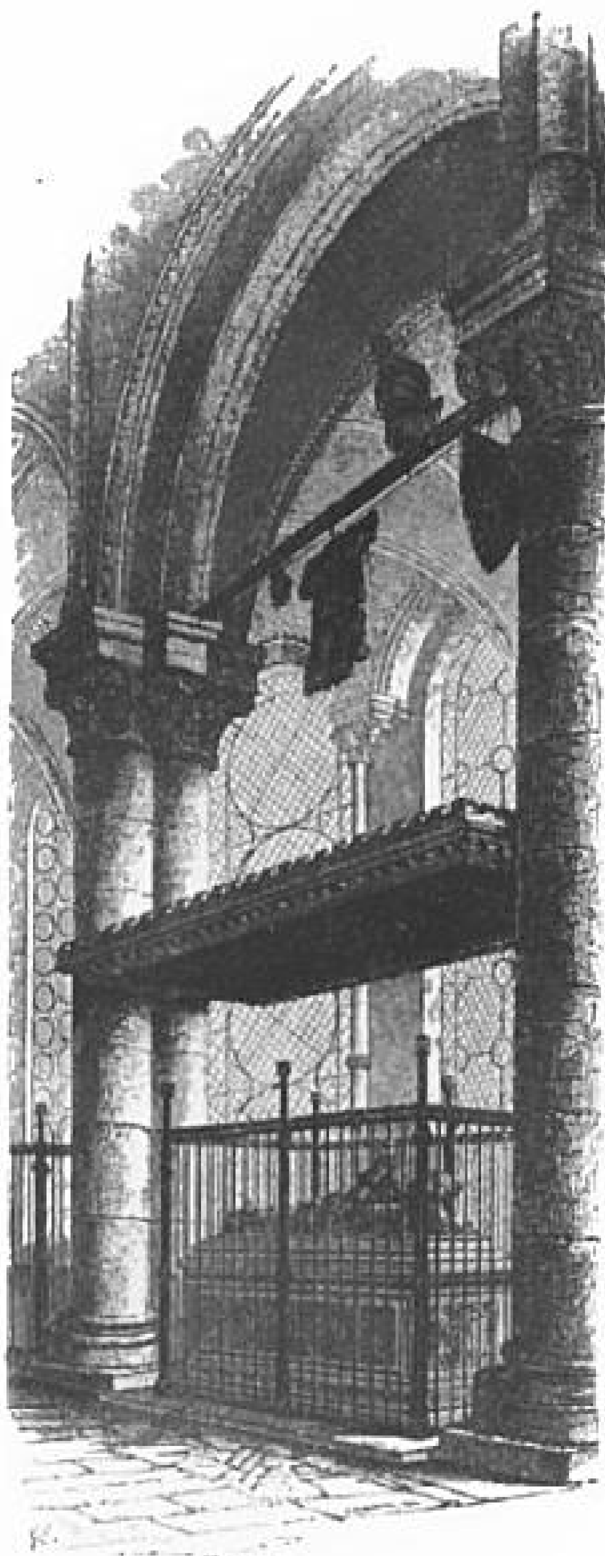


680. Plan of Canterbury Cathedral. Scale 100 ft. to 1 in.

Almost before this choir was completed, a further extension eastward was determined upon, and the Trinity Chapel and Becket's Crown[1] were erected between the years 1179 and 1184, thus completing the size of the cathedral as we now find it. In the addition the pointed arch was used wherever the space to be spanned was narrow, the round arch

[1] It is not easy to prove it, but I cannot escape the conviction that Becket's Crown is only a rebuilding of the old baptistery, in which the Saxon archbishops were buried as mentioned, p. 844, and the extension of the Trinity Chapel was made on purpose to include it.

where it was wider. That over the Black Prince's tomb (woodcut No. 681) is circular in form; those east and west of it pointed. They all have, however, the same transitional character. The shafts generally are coupled, the archivolts moulded in successive *planes* of decoration, and almost all the features of the later style shadowed forth, though none yet completed.



681. Arch over the Black Prince's Tomb, Canterbury Cathedral. G. Scharf, del.

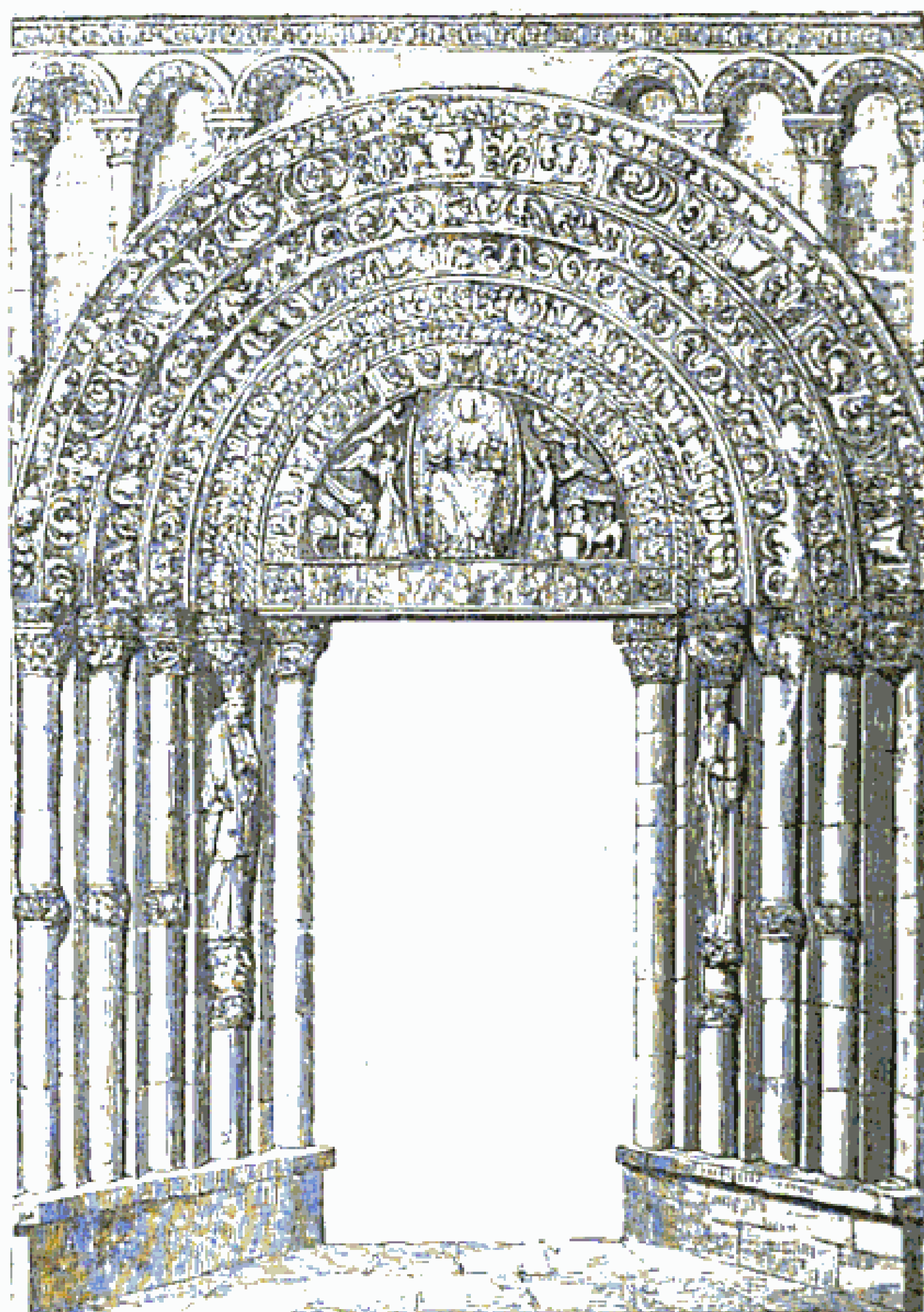
After this nothing of importance seems to have been undertaken till the new enclosure of the choir was commenced and completed (1304-5), in the very best age of English art, as may be seen from the illustration (woodcut No. 678).

The rebuilding of the nave was commenced about the year 1378, and completed about 1410, being erected on the foundation of the old Norman nave, which was entirely obliterated by the process, except the north-western tower, which was wantonly destroyed within the last few years, and a new one commenced in 1832 to replace it.

About the same time as the nave, or rather earlier, the chapter-house was rebuilt; and in the year 1495 the central tower was commenced, with the arches to support it, and completed shortly afterwards. The external appearance of these three last objects is shown in the woodcut No. 679, which serves also to illustrate the admirable effect obtained by the English architects by placing the principal features of their churches on the intersection of the nave with the transept. Though late in date, its outline is pleasing, and it groups well with the surrounding objects, being sufficient to give dignity to the whole, but without overpowering any.

The cathedral at Rochester was commenced shortly after that at Canterbury, by Gundulph, a monk of the abbey of Bec in Normandy, who was appointed bishop of the see in 1077. It still retains all the principal features of its nave unaltered, and enables us to judge fairly what the appearance of the metropolitan cathedral was in this respect. Its architecture is plainer than that of the contemporary examples in France, though, owing to its having been always destined for a wooden roof, the piers and the design generally are lighter than where preparation was made for a stone vault.

Its western doorway, which remains intact (woodcut No. 682), is a fair specimen of the rich mode of decoration so prevalent in that age. It must be considered rather as a Continental than as an English design. Had it been executed by native artists, we should not entirely miss the billet moulding which was so favourite a mode of decoration with all the nations of the North.

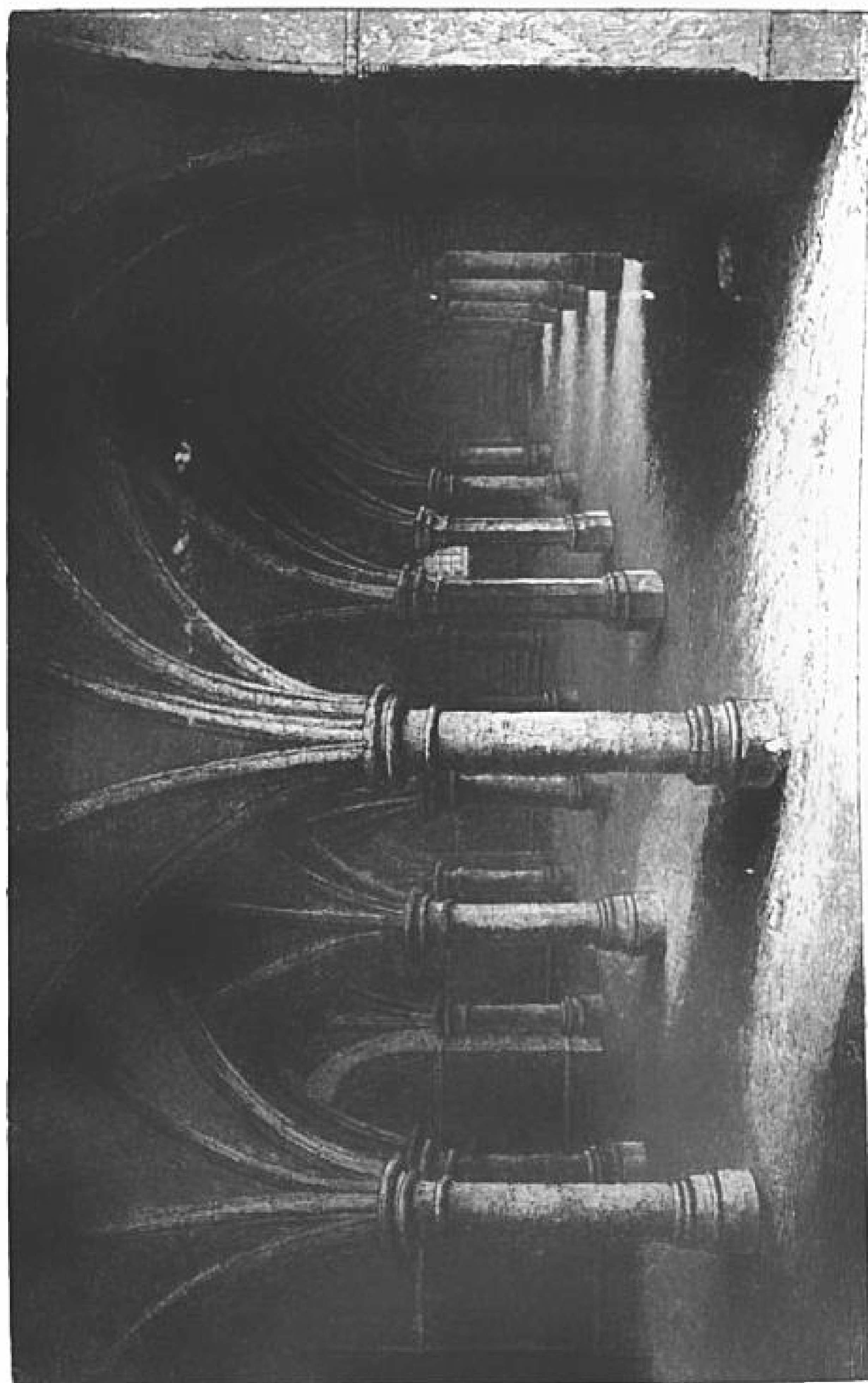


682. Rochester Cathedral, West Doorway.

The choir and the crypt below it were rebuilt in the first years of the 13th century, and dedicated 1227. The latter (woodcut No. 683) is one of the best specimens of its class to be found in England, as after this date the subterranean churches became less important than in the previous centuries. No new crypts were built after this time, though we find the older retained, and sometimes restored, down to a much later period.

The cathedral at Chichester was commenced immediately after the removal of the see from Selsea in 1082, and the nave, as we now see it,

was probably completed during the next thirty-six years, though the whole was not ready for dedication till about the year 1148. Owing to this circumstance the original choir has the elongated form which afterwards came into use, and it was not necessary to rebuild it, like

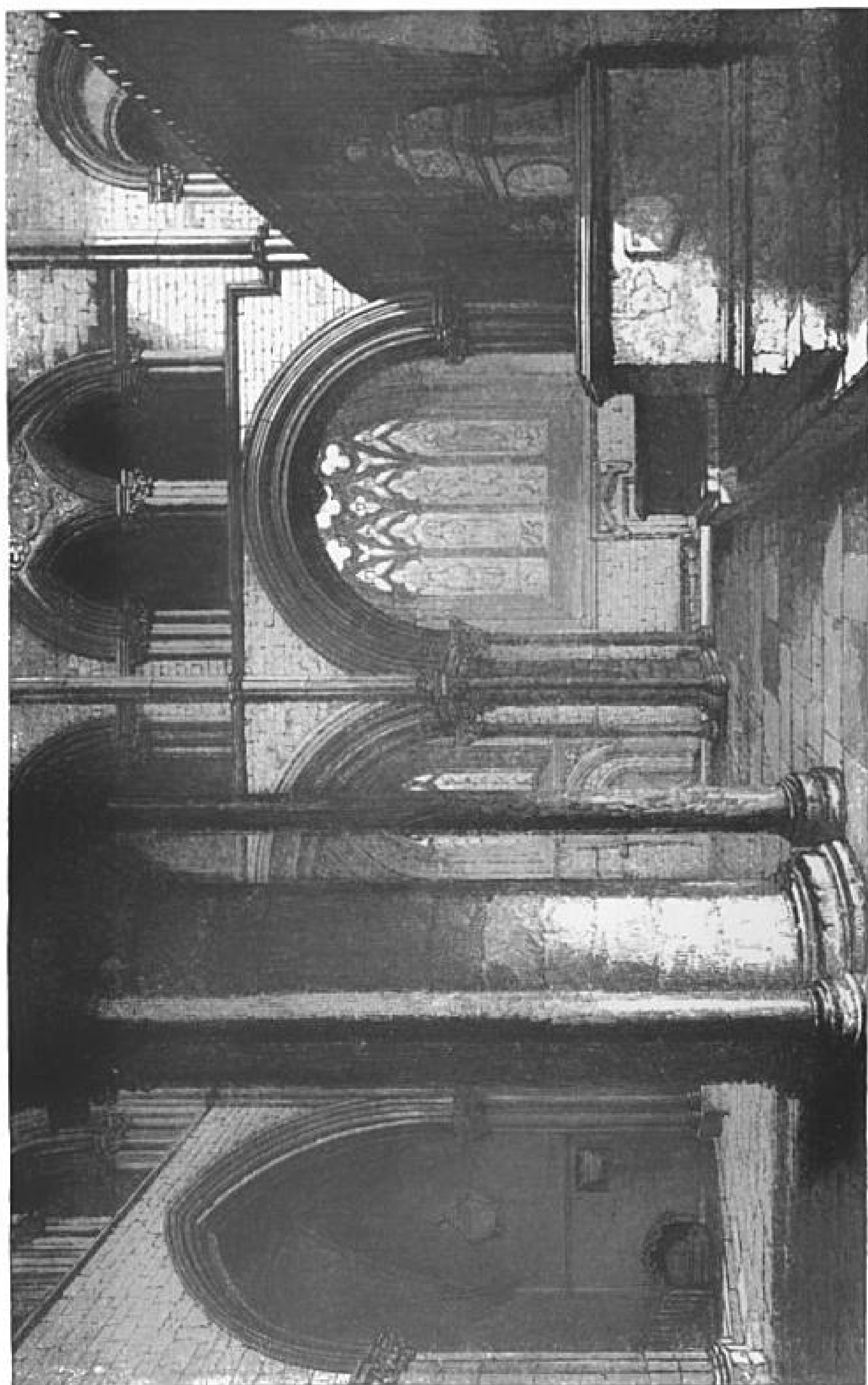


683. Crypt, Rochester. From a drawing by G. Scharf.

those of Canterbury and Rochester, the old Norman choir being used to the present day.

When the church came to be extended eastward, as was almost always the case in England, all that was required was to continue the walls in that direction, as shown in woodcut No. 684. This extension

took place in the early part of the 13th century, and is a pleasing specimen of the completed transition. The pier-arches are still circular, not because the use of the pointed arch was not understood, for the eastern

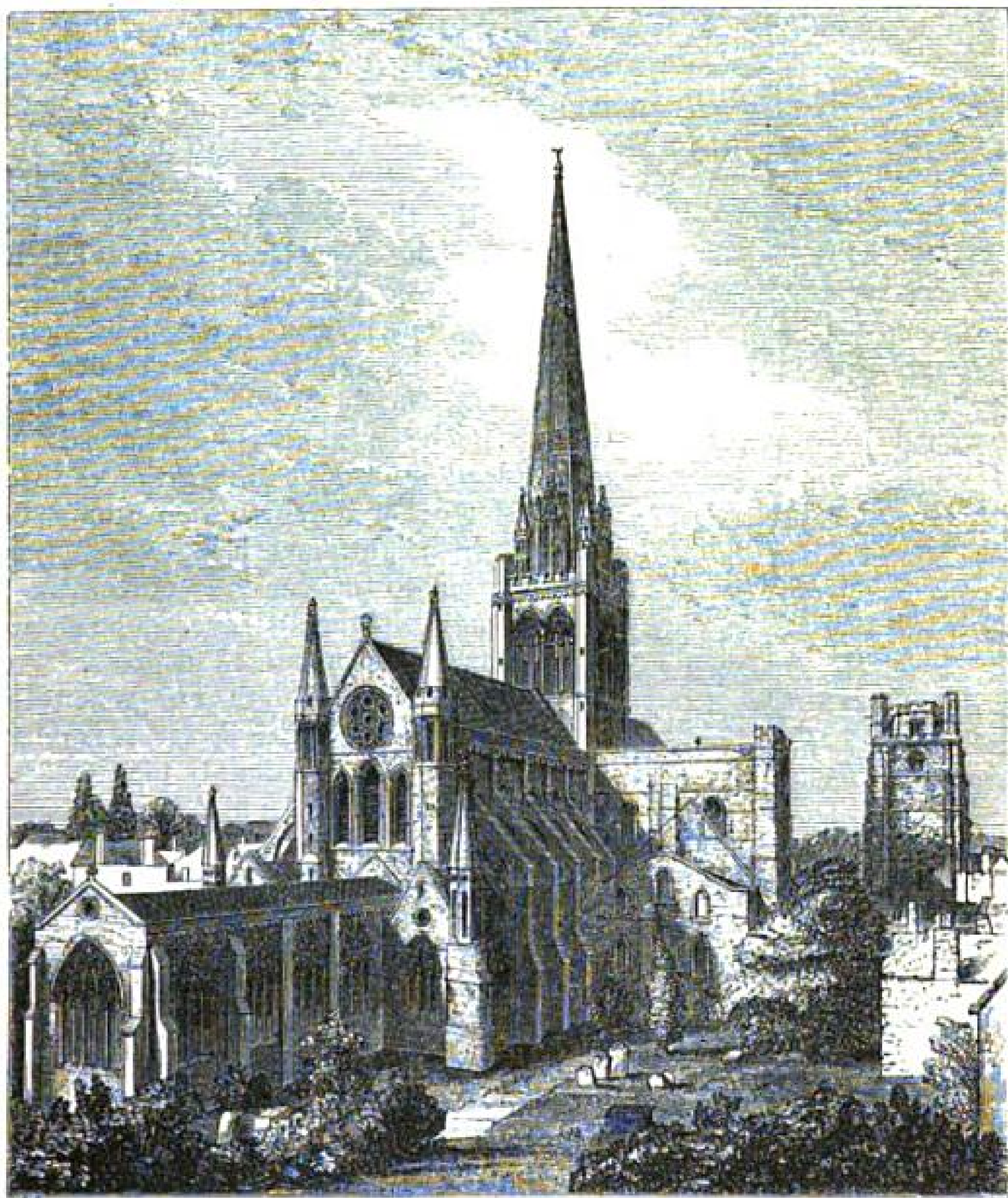


681 Presbytery of Chichester Cathedral. From a drawing by G. Scharf.

arch, shown on the left of the woodcut, though of the same age, is completely pointed. If the space to be enclosed had been a little longer, and had therefore required three bays, or a little shorter, so as to have been

divided into narrower spaces, pointed arches would have been employed. The architects adopted, in fact, whichever of the two forms best suited their immediate purpose. It had not in those days become a dogma that architectural beauty could only be produced by the use of the pointed arch.

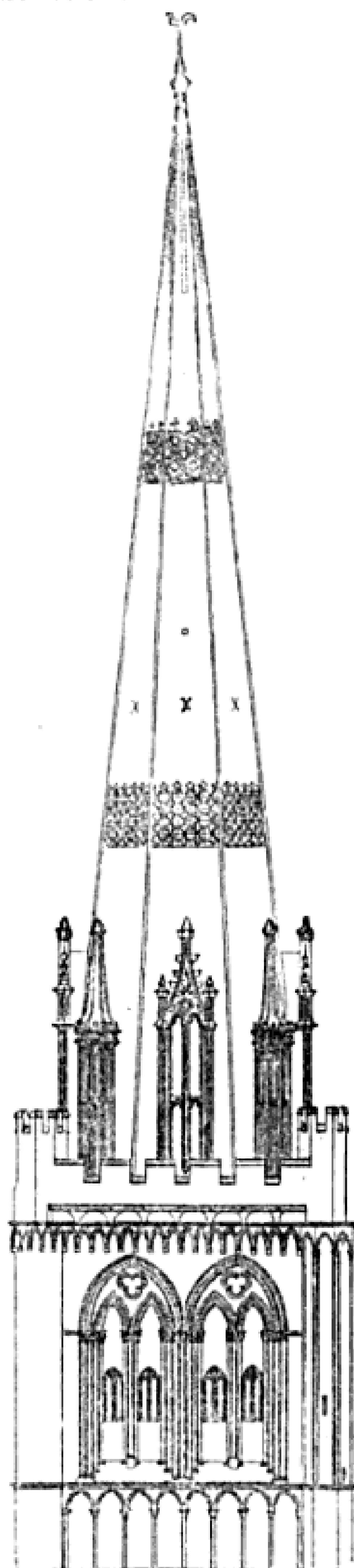
The illustration is remarkable in another respect, showing the use, it might almost be called the abuse, of Purbeck marble, which English



685. Chichester Cathedral. G. Scharf, del.

architects indulged in at this period. From about the year 1175 till past the middle of the 13th century, no mode of decoration was in such favour in England as the employment of small detached shafts of this material, applied to the sides of the stone constructive piers of the building. When the whole of the architecture was painted in rich but opaque colours, the polished shafts of dark marble must have afforded a beautiful contrast. Subsequently the more brilliant colours of the

painted glass eclipsed the effect of the marble shafts, on which the unconstructiveness of this mode led to its abandonment. In Chichester cathedral the shafts are further detached than in any other known example from the piers, which are of the same costly material. The result is not pleasing, which seems to have been felt in those ages, for the experiment was never repeated.

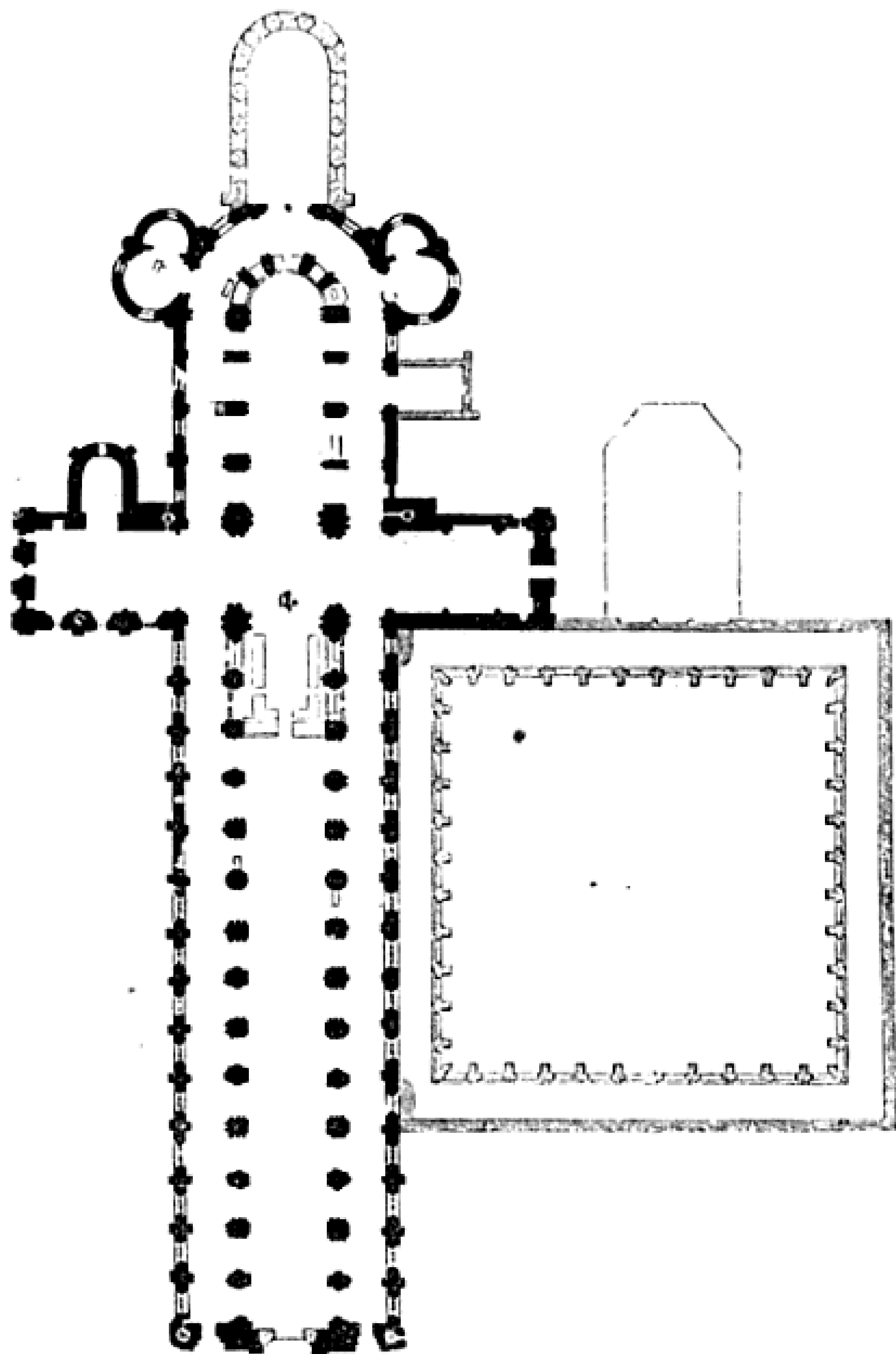


686. Spire of Chichester Cathedral.

This cathedral is the only one in England that has five aisles in the breadth of its nave. This was not part of the original design, and the whole is on so small a scale that the effect is not at all equal to that of the simpler three-aisled naves of other churches. The appearance of the church externally (woodcut No. 685) is pleasing, notwithstanding its small dimensions. The tower on the intersection is of good design, and belongs to the first half of the 13th century. The spire that surmounts it is said to have been built in imitation of that at Salisbury; and though rising only to 271 feet in height, is perhaps even better proportioned to the church it crowns, and is of a more pleasing outline. The angle at the summit is about 13 degrees. At Salisbury, Norwich, Louth, and generally in all the tallest English spires, it is only 10 degrees, which is certainly too slender. On the Continent, in the best examples, as at Cologne (woodcut No. 607), Friburg (woodcut No. 608), and others, it is about 15 or 16 degrees, which, unless the spire is of open work, or very much ornamented, is on the other hand too low. As a general rule it may be well to bear in mind that the spires of Continental churches have generally an angle of about one-sixth of a right angle at their apex, in England of one-ninth. The spires at Chichester and Lichfield vary from 12 to 13 degrees, or a mean between these two proportions; and from this circumstance are more pleasing than either.

Chichester possesses a detached bell-tower, shown in the woodcut No. 686. One very similar existed, till within a few years, at Salisbury; and they may have been more common formerly than is usually suspected, but being generally supposed to be useless, have been taken down.

No cathedral in England retains its original Norman plan so nearly undisturbed as Norwich. Founded in 1094, the works were pushed forward with such vigour that in 1101 sixty monks were located in the establishment. To this date therefore the original plan (shaded dark in the woodcut No. 687) certainly belongs.

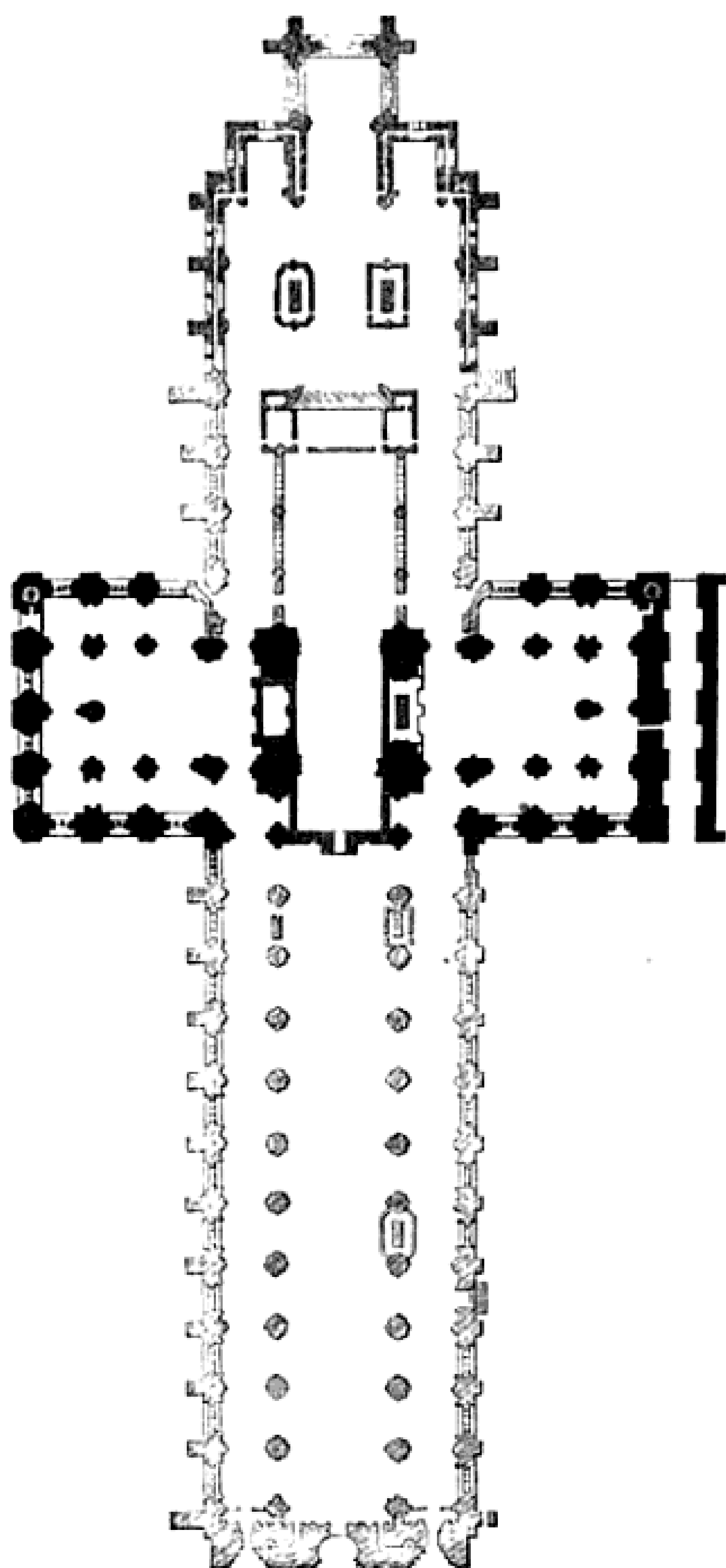


687. Plan of Norwich Cathedral. Scale 100 ft. to 1 in.

Although retaining the chevet termination of the Continental cathedrals, the general plan of this church differs most essentially from them. Its great length, as compared with its breadth, is such as is never found on the Continent; and the bold projection of the transepts is also a purely English feature, though in this instance hardly carried to the extent which the length of the nave required. A central and two western spires or towers were absolutely indispensable to complete such a design as this, which could never be made to look short by such an

addition, while they would have the full value of their height from the lowness and extreme length of the church.

The naves at Peterborough and Ely still retain their Norman features internally in all their pristine grandeur, except that whitewash has superseded the colours with which they were originally adorned. Their side aisles are vaulted, but the central aisles still retain the wooden roof they were originally designed to carry.



688. Plan of Winchester Cathedral. Scale 100 ft. to 1 in.

Winchester has in this respect been more fortunate, having been restored by William of Wykeham in the latter part of the reign of Edward III. He did not pull down the old church, but merely re-cased the Norman piers with the beautiful details of his age. We consequently have in this nave the vigour and strength of Norman architecture combined with all the elegance of the best age of the pointed style. The piers dividing the aisles are 12 ft. thick, while the side aisles are only 13 ft. wide, and the central aisle 32 ft. Yet with all this there is nothing heavy, but, on the contrary, it is perhaps the most beautiful nave of a church either in England or elsewhere, wanting only somewhat increased dimensions. Its effect is no doubt greatly heightened by the immense length of the whole church (556 ft.). There is in fact no other cathedral on this side of the Alps equally long, with the exception of Canterbury, which is almost exactly the same. Externally the church is low, but its great length is pleasingly broken, as at Ely and Peterborough, by the bold projection of its transepts, which

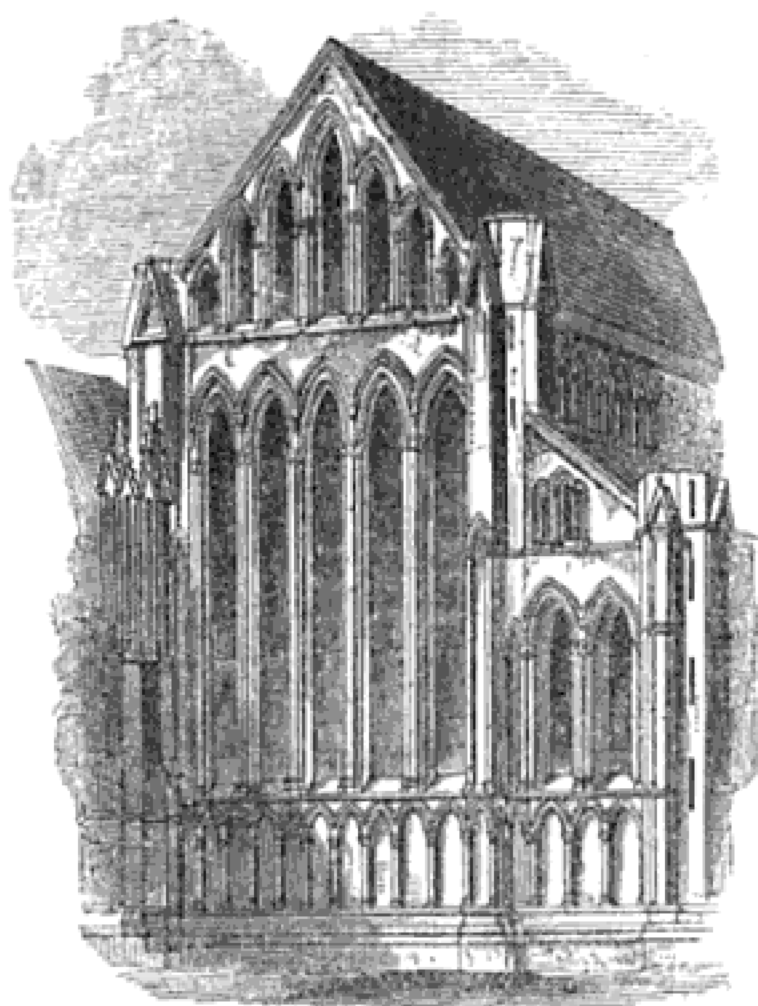
here extend, as usual in England, three bays beyond the aisles, their section being the same with that of the nave.

The choir of Gloucester cathedral, which is purely Norman in design, has, like the nave of Winchester, been overlaid with a veneer of masonry in the pointed style; but having been done at a later age, and by less vigorous hands, it is comparatively weak and poor. There the pointed is added to the round arched style, instead of being amalgamated with it as at Winchester.

The cathedral at Durham was commenced in the year 1093, and the works continued without interruption for forty years, when the building was so far completed that the side aisles were vaulted and the central aisle covered with a wooden roof. In this instance, however, and in this alone of all English cathedrals of this age, a stone roof was certainly intended from the beginning, the piers of the nave being alternately round and shafted, so as to support a hexapartite vault. Though the nave is only 32 ft. wide, the builders had not the skill or courage to carry out this intention till the time of Prior Melsonby (A.D. 1233), 100 years after the building had been practically finished.

The Galilee, or great western chapel, which renders this cathedral something like a German double apse church in plan, was erected between these two periods, in 1153, and is a light and beautiful specimen of the best age of the round-arched style. This was originally designed to support a wooden roof of no great span, which led the architect to venture on a lighter style than had hitherto been employed.

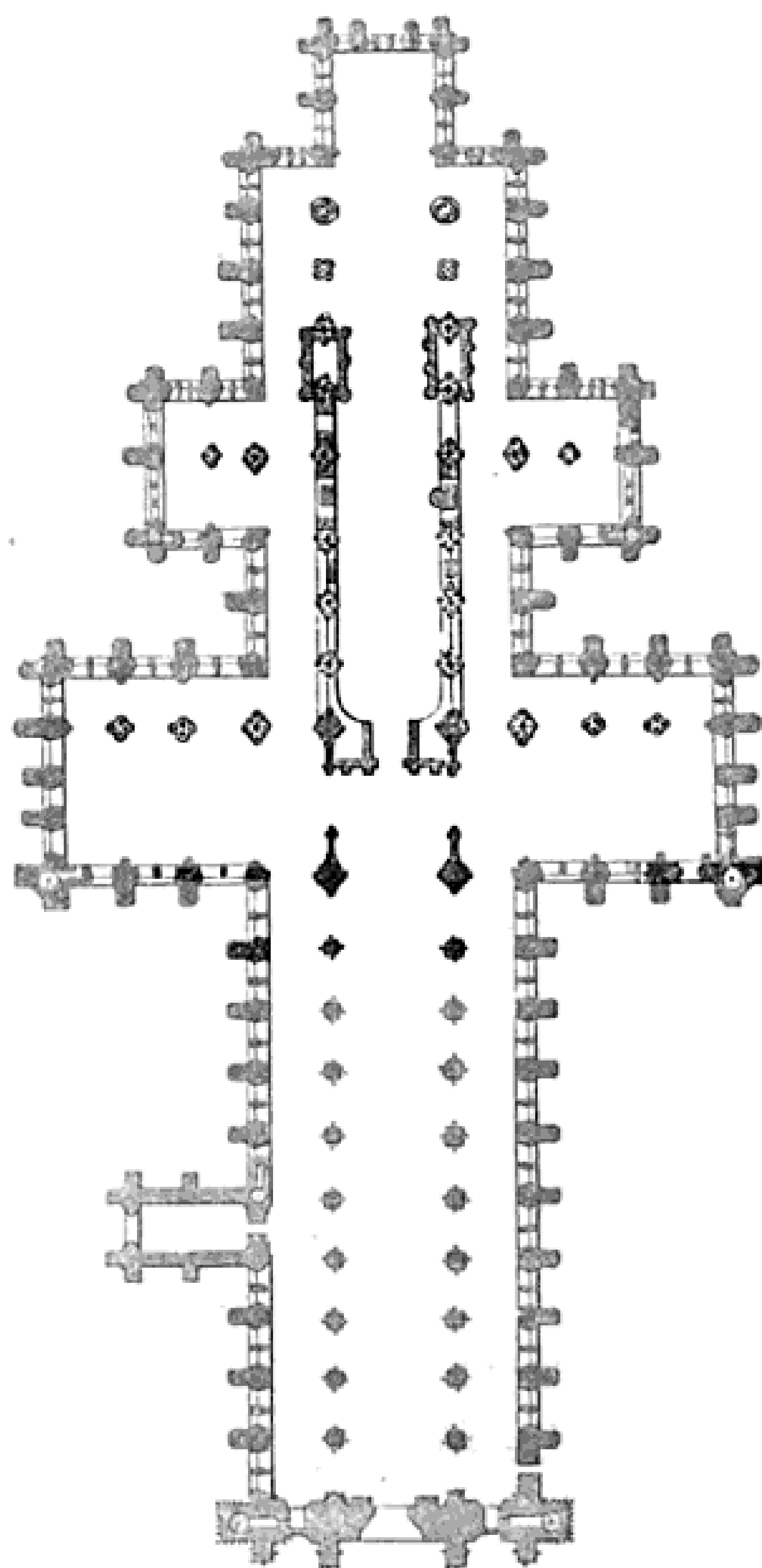
The Chapel of the Nine Altars, at the east end, was commenced about the year 1235, and completed, in the early pointed style, about 1273, or 180 years after the commencement of the cathedral. Additions and alterations were made afterwards, but the cathedral was completed, in all essential respects as it now stands, during this period. This cannot be said of any other cathedral in England; and Durham certainly is one of the noblest examples of this great transitional epoch.


689. Five Sisters, York. From Britton.

One of the first important buildings erected wholly in the pointed style was the new choir of Lincoln cathedral, built by St. Hugh in the last decade of the 12th century. The chapels retain in plan the circular form of the earlier style, but the windows, vaults, and all the constructive features are pointed, and of that peculiarly English

form which has been denominated lancet. Though found in Normandy, it is there the exception, while in England for above half a century it was almost universally employed, and often with great beauty. The windows, for instance, called the Five Sisters in the north transept of York cathedral, though merely tall, simple, undivided openings, are as fine as anything of their class executed afterwards, and both externally and internally have a constructive solidity and grandeur not found in the later mullioned examples. Their one defect is their insufficiency for the display of painted glass, which, however, at the time at which they were designed, had hardly come much into fashion in England.

The first great cathedral built completely in the new style was Salisbury, begun in 1220 and finished in all essentials in 1258. Restoring, in imagination at least, the painted glass which once filled all its windows and the colour that once covered the walls and vaults, its internal effect must have been extremely beautiful; far more so than that of its great rival at Amiens, with which it is so often compared, though of scarcely half the dimensions. It must be remembered that in the French cathedral the clerestory or "haut œuvre" was not erected till after the great fire in 1258, when Salisbury was complete, and is, therefore, the work of a more advanced age. As it at present stands, there is a coldness and leanness about Salisbury that detracts considerably from its effect; but this is owing far more to modern abominations than to anything inherent in the design.

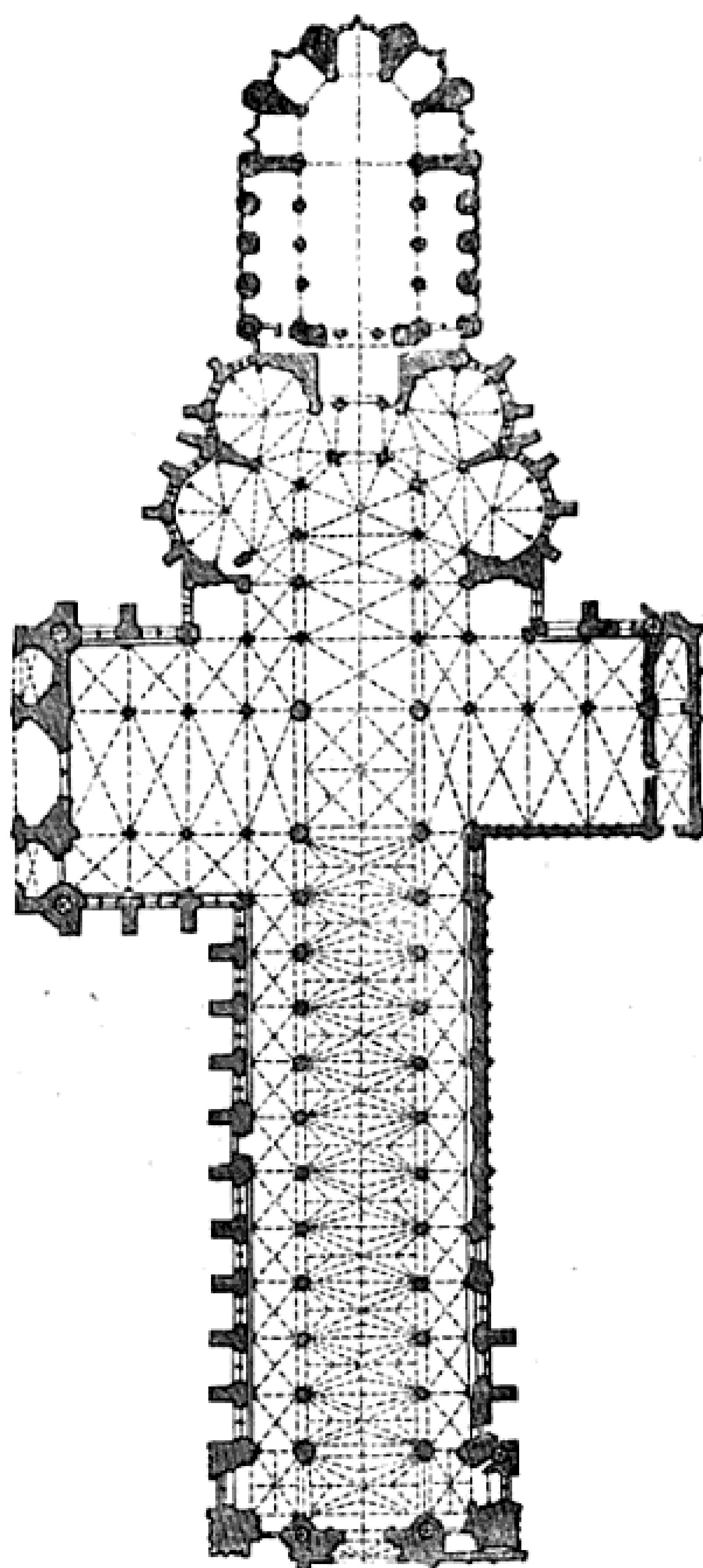


690. Plan of Salisbury Cathedral. Scale 100 ft. to 1 in.

Externally the effect of this cathedral is even better than that of the interior. The bold breaking of the outline by the two transepts instead of cutting it up by buttresses and pinnacles is a master-stroke of art; and its noble central tower, which, though erected at a later age, was evidently intended from the first, crowns the whole composition

with singular beauty. The western façade is the worst part of the design, and considerably mars the completeness of the cathedral. Had this part either the richness of the west front at Wells or the grace of that of Lichfield, the cathedral would stand nearly unrivalled as a specimen of purely English architecture.

The next great building of this age which was completed so much in the same style as to enable us to judge easily of its effect was the abbey at Westminster, commenced twenty-five years later, and finished to beyond the transept in 1269, or nineteen years before Amiens was completed. This, therefore, as more nearly corresponding in date, may be more justly selected for comparison with that church; and making the same allowance for dimensions as in the former case, few will hesitate in assigning the palm to the English example. The least successful part of its design is the chevet, which the English architects never understood, and which is certainly here used with considerable awkwardness. It is evidently a copy, or rather an imitation, of a French feature; so also is the proportion of height to breadth in this church, being as 3 to 1, which is certainly an error in excess. This is for its width the loftiest cathedral in England, the proportion in this country being often as low as 2 to 1 for the central aisle, the width of the side aisle being equal to the height of its vault. All English cathedrals vary between these two ratios, their average being 2·36 to 1. Thus supposing the central aisle of an English cathedral to be 30 ft. wide, the height would be 70 ft., while the French proportion would make it 90. The French mode of dividing the height into two equal parts at the line immediately



691. Plan of the Abbey at Westminster. Scale 100 ft. to 1 in.

below the triforium is used at Westminster, and also that of again dividing the upper part into three equal divisions, one of which is assigned to the triforium and two to the clerestory. All this looks so like the way in which the Germans borrowed the French style, that there can be little doubt but that this is the result of a similar process of imitation. The same may be remarked of the tenuity of the piers and general lightness of the structure internally. Most of these are undoubtedly defects, but to redeem them there is a vault, richer and more beautiful in form than any ever constructed in France; a triforium as beautiful as any in existence; and generally an appropriateness of detail and sobriety of design which rendered this abbey-church in its primitive state one of the most beautiful Gothic edifices in the world. It only wants a little more strength in its supports and little less exaggeration in height to be nearly perfect.

In the exterior of Westminster Abbey another French characteristic betrays itself. It never was intended to have a central tower,[1] but it must always have been proposed to add two at the western end, probably nearly of the dimensions of those erected by Sir Christopher Wren. Its bold projecting transepts and noble length of nave are truly English features, and give it as great dignity externally as it has grace in its internal arrangements.

The first half of the 13th century, which produced these two great churches of Salisbury and Westminster, was the great cathedral building age of this country, as it was of France. Most of our larger ecclesiastical edifices received important additions in the style then current. The previous century, however, had been one of such vigour, and displayed so much building energy, that far less remained to be done by us than by our neighbours; and men were content to repair and enlarge without ignoring all trace of the previous erections, except in the two instances just quoted.

Next in completeness and perhaps in grandeur may be quoted Lincoln; all except the presbytery being of this age, and this part follows so immediately after the rest as not to produce any want of harmony, but merely a degree of enrichment suitable to the increased sanctity of the altar and the localities surrounding it. The western part or nave may almost be called a failure from the too wide spacing of the piers[2] and their want of solidity. The eastern part is equal in design and execution to anything of the most perfect age, and of a style purely English, both in proportion and in decoration. It was probably finished about the year 1282, and may be considered as the first complete specimen of the true Edwardian style of perfected English art. In it the lancet form wholly disappears, to give place to the perfected "circle tracery," usually called "geometric," which was first introduced in Westminster Abbey, but there used without foliation or that subordination of parts which is so essential a characteristic of true

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[1] The proper mode of completing this church would be to erect a wooden spire on the intersection of the nave with the transept, similar to that on the roof at Amiens and elsewhere in France.

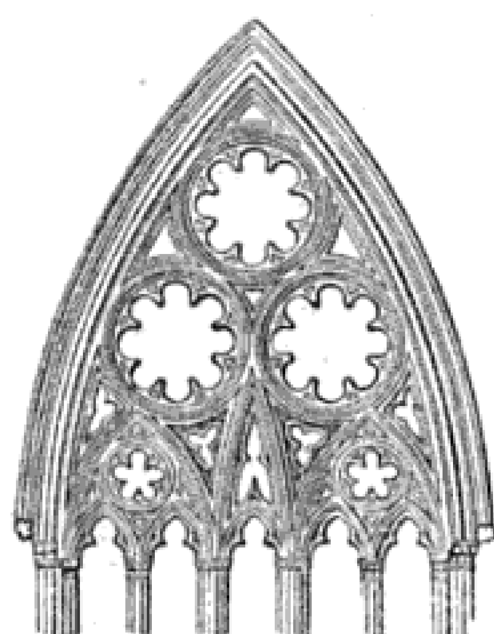
[2] This may have arisen from some peculiarity of the Norman nave which it replaced.

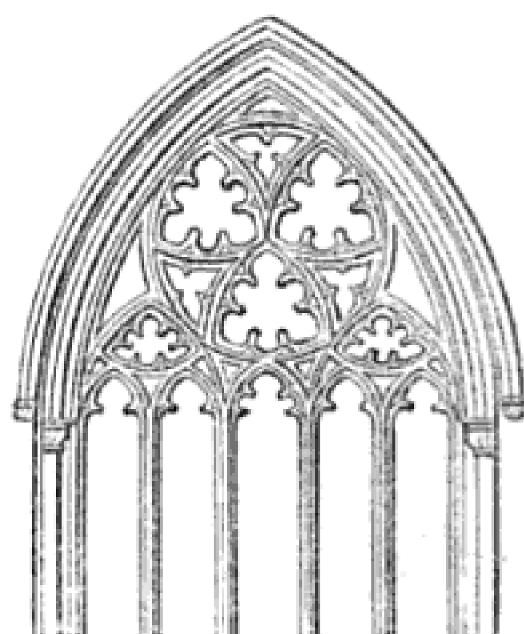


692. East End of Lincoln Cathedral. From Wild's Lincoln.

window tracery. The difficulty of making the circles fit pleasingly into the pointed arch is as apparent here as in France, and led to the adoption of flowing tracery in both countries. The English architects were sometimes singularly successful in their treatment of even the geometric style, and got over its difficulties by various expedients. In the chapter-house at York for instance (woodcut No. 693, fig. A), it was done by making the main arch of the window so pointed that the circles are piled one on the other, so as nearly to fit its form. In the other example, B, the result is obtained by the introduction of spherical triangles, so that the only awkwardness is the small space at the apex of the arch. This may be considered as the first step towards the new style which was introduced almost immediately afterwards.

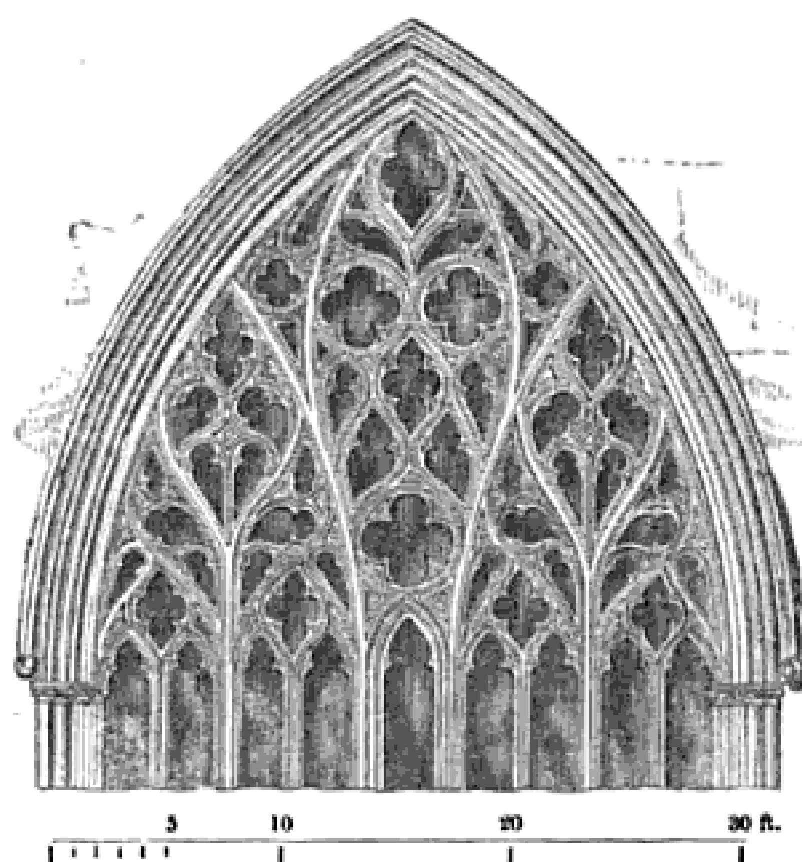
The first half of the 14th century, during which flowing tracery was in vogue in England, was a period of great depression with the French, and when they again took up the style they appear to have borrowed in their turn from the English; refining this mode of tracery into the flamboyant about the time the architects in England were aban-





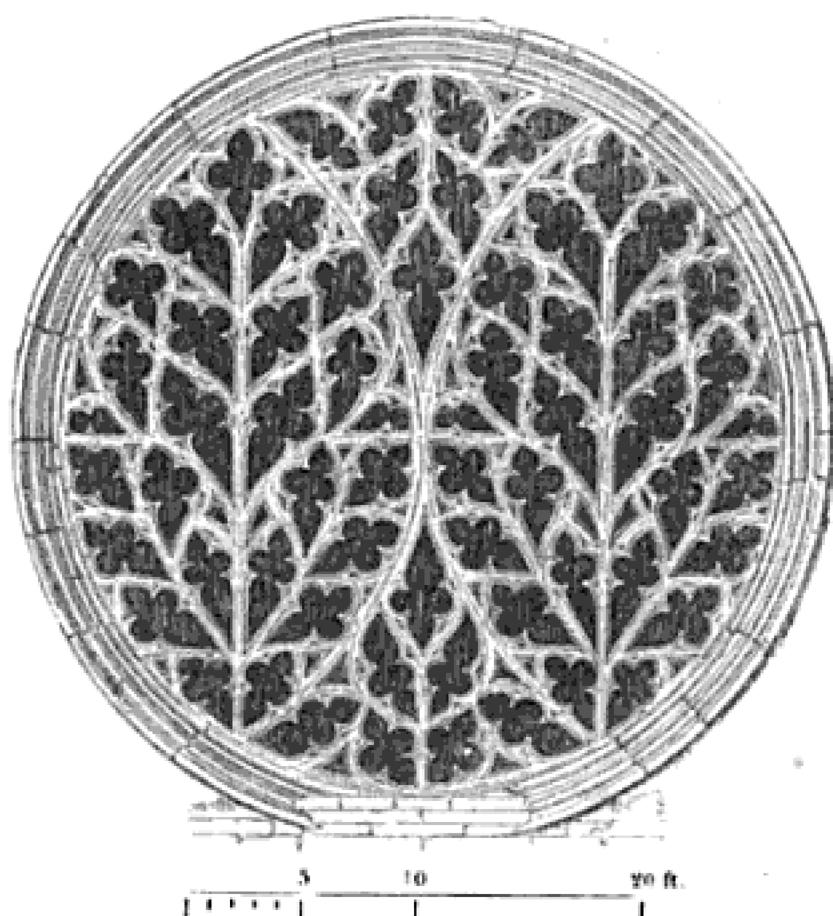
693. A B

doning it for what has been called the perpendicular style. This was introduced by William of Wykeham in the latter part of the reign of Edward III. Each of these four kinds of tracery had beauties of its own, and it is to be regretted that they cannot be combined into a perfect whole. There is a noble Doric simplicity about the lancet, and a structural solidity about buildings in this style, which is not apparent with the larger openings of subsequent ages. The tracery of circles was constructively right, but always awkward, and left no play to imagination or fancy: it is no wonder, therefore, that when once flowing lines were suggested, they came immediately into such general use. Certainly the most beautiful windows in England are so constructed. The west window at York is a fine specimen of the class, but not equal to that at Carlisle (woodcut No. 694), which is probably without a single exception the most beautiful design for window tracery in the world. All the parts are in such just harmony the one to the other, the whole is so constructively appropriate, and at the same time so artistically elegant, that it stands quite alone, even among the windows of its own age. Next perhaps to these is the circle in the south transept at Lincoln (woodcut No. 695), which, though extremely beautiful, wants the perfect subordination which is so satisfactory in the example at Carlisle. This style too had its difficulties. In inferior hands it became ill-proportioned and unmeaning. Like all

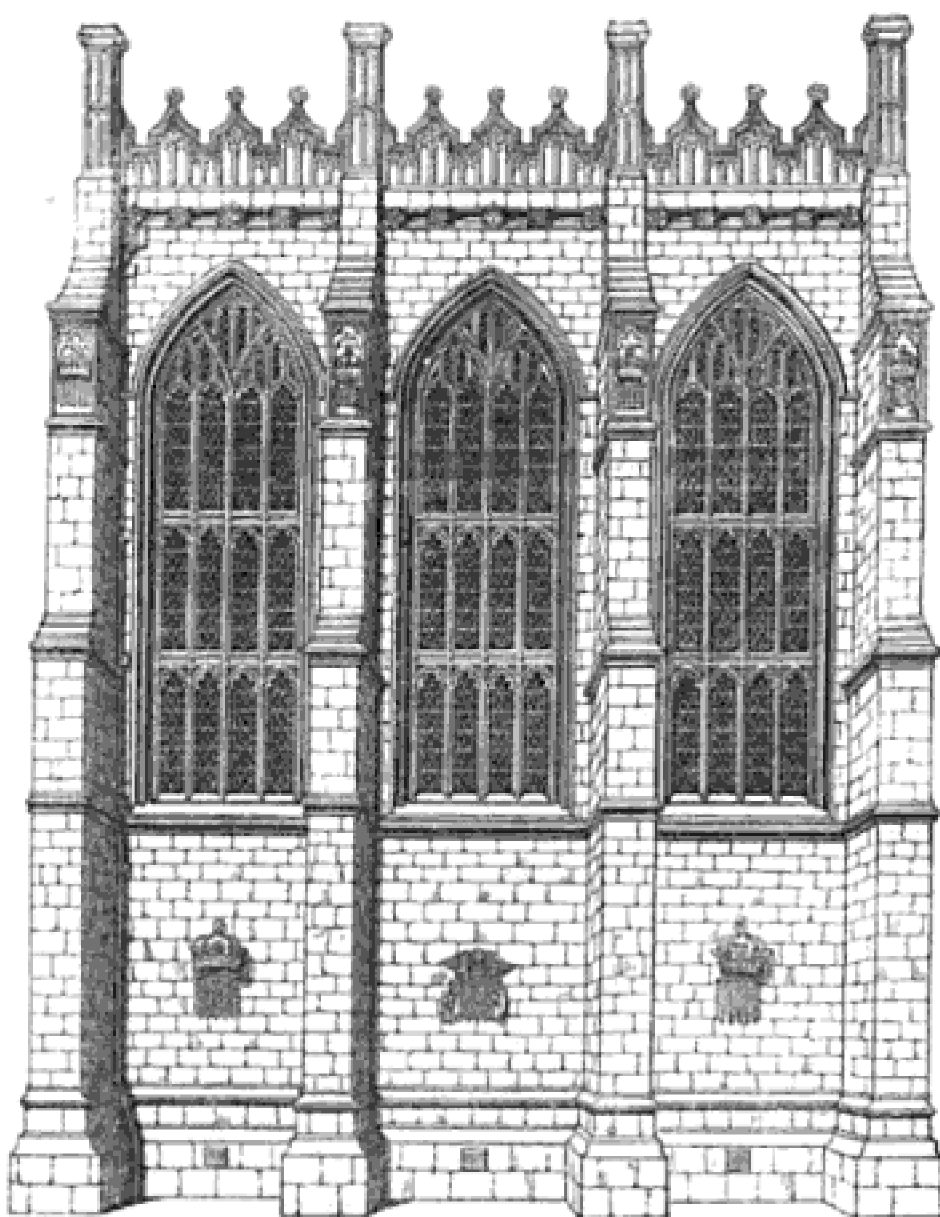


694. East Window, Carlisle Cathedral. From a drawing by R. W. Billings.

that is best and highest in art, it requires the highest class of minds to cultivate it successfully. Another objection was that what it gained in design over the circular style it lost in construction. Some of the windows of this kind, that at Carlisle for instance, are master-pieces of workmanship, but few masons were capable of executing so complicated a task, and even then the expense of money and thought was enormous. These causes led to the adoption of the most eminently constructive of all styles of tracery—the perpendicular[1]—which had the merit, not only of fitting any form, but of being mechanically correct in all its bearings and all its joints. In consequence of this, it gave the architects the power of erecting windows of any size without difficulty or fear of the result. Even in the latest age it retained its propriety and elegance of design, as is shown in the sepulchral chapel which Cardinal Wolsey erected for himself at Windsor (woodcut No. 696). This,



695. South Window, Lincoln.



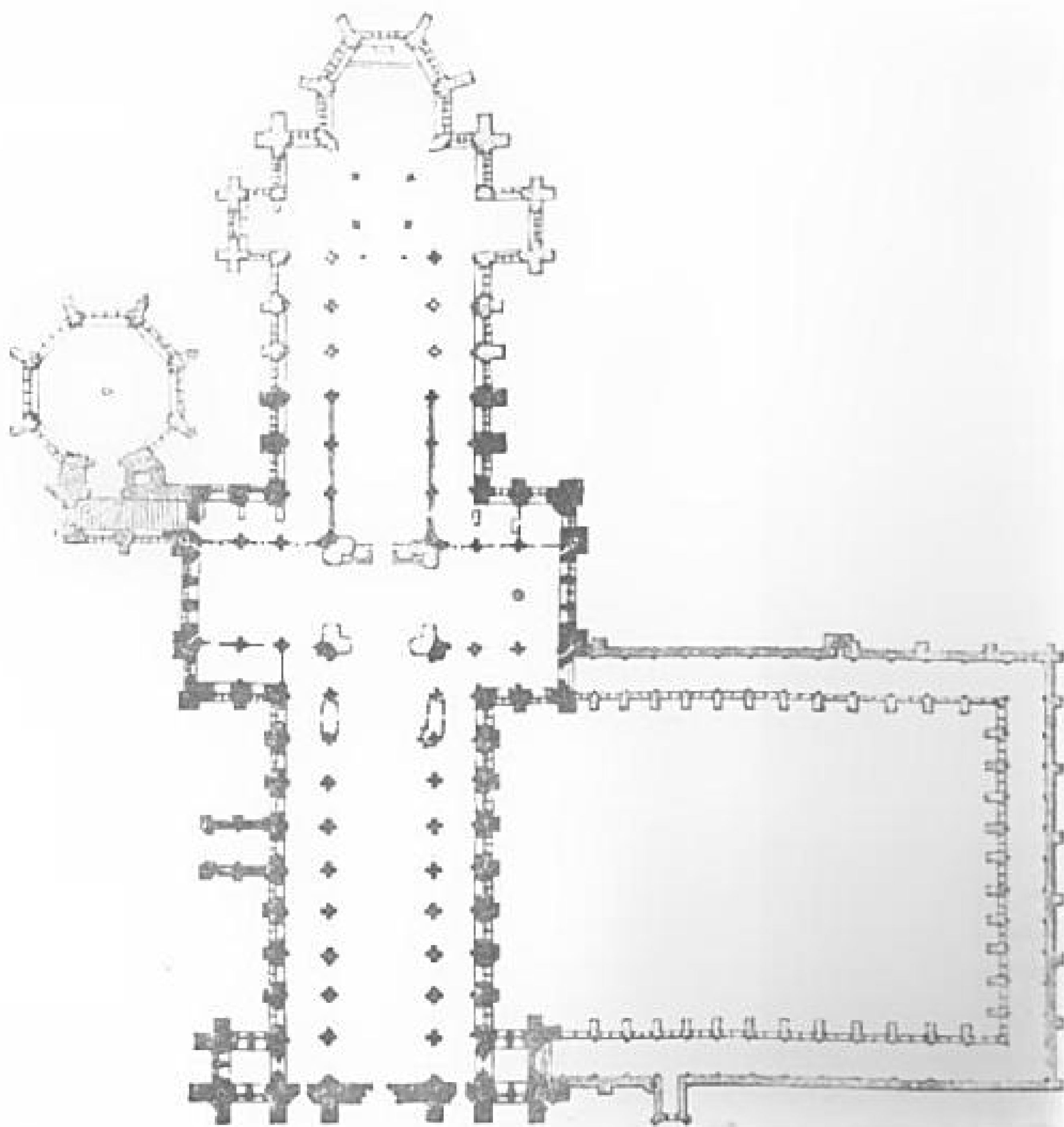
696. Wolsey's Chapel, Windsor.

[1] The west window of the Chapter-house, Canterbury (woodcut No. 679), is a good specimen of early perpendicular tracery.

though one of the latest Gothic edifices in Europe, displays neither any admixture of other styles nor any of the extravagance of German or French art of the period.

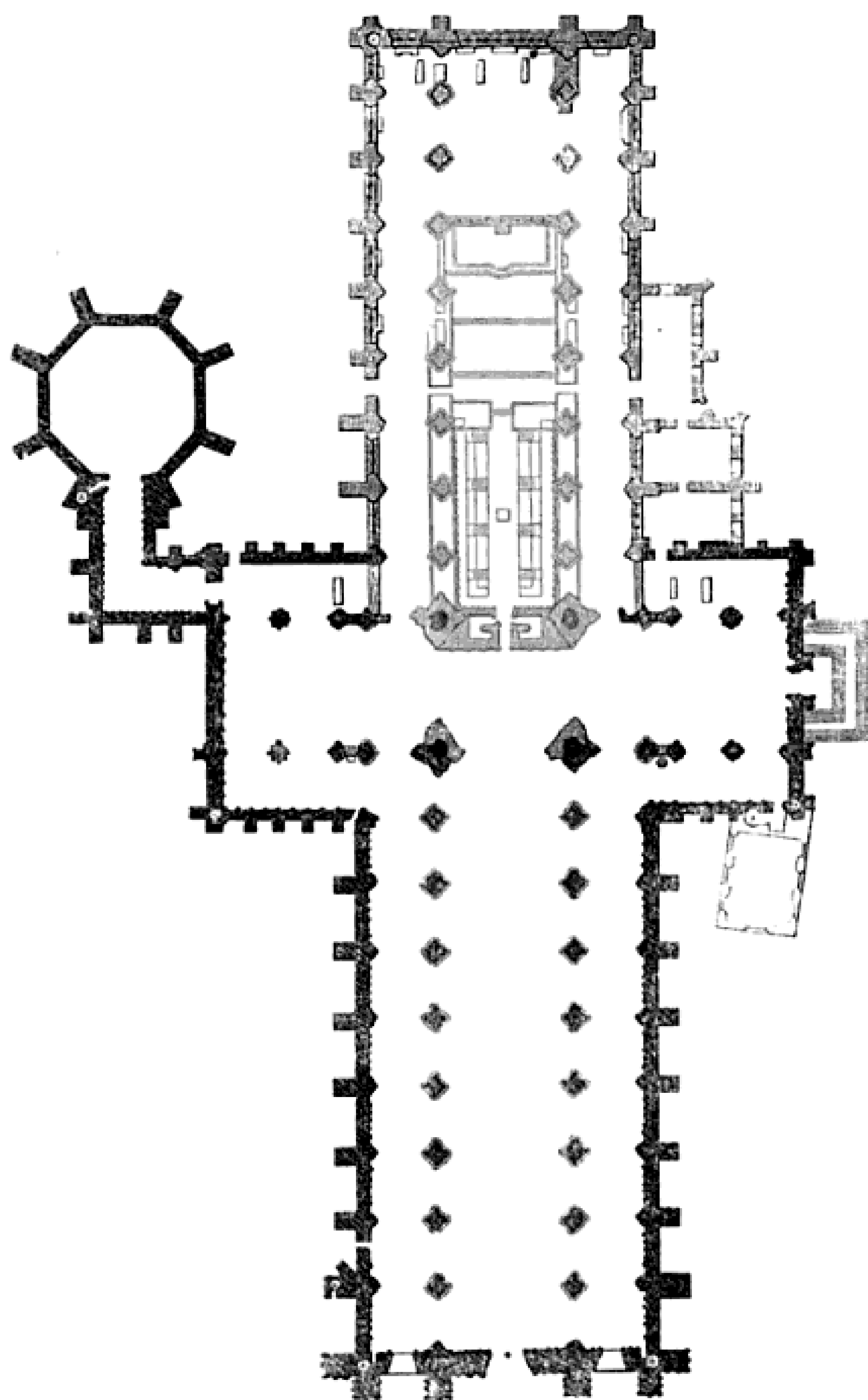
The misfortune of the perpendicular style was that it fell on evil days. Used as it was at first, or as it might in a better age have become, it may be considered nearly as the perfection of tracery. It possessed, however, within itself a fatal facility which brought down the art to the meanest capacity, and afforded no scope or exercise for the highest intellects. The tendency of the age was for the greatest possible effect at the least possible expense; hence the perpendicular tracery soon became prosaic to the last degree, and utterly unworthy either of its predecessors or of its own capabilities. Like all tracery, it was merely a frame-work subordinate to the painted glass which filled the windows. In attempting to judge of its propriety or beauty, it is always necessary to bear this in mind: it may sometimes look cold and inartistic now, but when the stained glass was perfect the case must have been widely different.

The cathedral of Wells belongs principally to the Edwardian age, though it was commenced as early as 1214 and not completed till 1465. Though one of the smallest, it is perhaps, taken altogether, the most



697. Plan of Wells Cathedral. Scale 100 ft. to 1 in.

beautiful of English cathedrals. The sculptures of its western façade are quite unrivalled, and with their architectural accompaniments make up a whole such as can only be found at Rheims or Chartres. Its nave, though narrow, is well proportioned, and its choir of the most exquisite detail. Even these are surpassed by the Lady chapel, a



698. Plan of York Cathedral. Scale 100 ft. to 1 in.

building of the very best age. The mode in which this is joined on to the body of the church is a master-piece of design, superior to any thing of the sort found elsewhere.

Externally its three well-proportioned towers group so gracefully with the chapter-house, the remains of the conventual building, the

ruins of the bishop's palace, and the tall trees by which it is surrounded, that, taken altogether, there is no instance so characteristic of English art, nor an effect so pleasing produced with the same dimensions.

In strong contrast to this is the cathedral at York. There the transepts are of bold early English (woodcut No. 689), the nave of the best Edwardian style, and the choir so slightly subsequent to the best age that the decline can hardly be said to have been felt in its design, yet internally the effect is poor and devoid of grandeur, notwithstanding that the building is larger, and that it still retains more of its original painted glass than any other cathedral in England.

Its chief defect is its great width in comparison with its length, combined with the wide spacing of the pier arches, which enables the spectator to see through the building in every direction; and it wholly wants the poetry of design found in Wells or Salisbury, or the picturesque admixture of styles that gives such interest to Canterbury or Winchester.



699. West Front of Peterborough Cathedral. From Britton's Picturesque Antiquities.

Externally the three towers of York cathedral group most pleasingly in every direction, and its western façade is in justness of proportion and elegance of detail equal to anything in England.

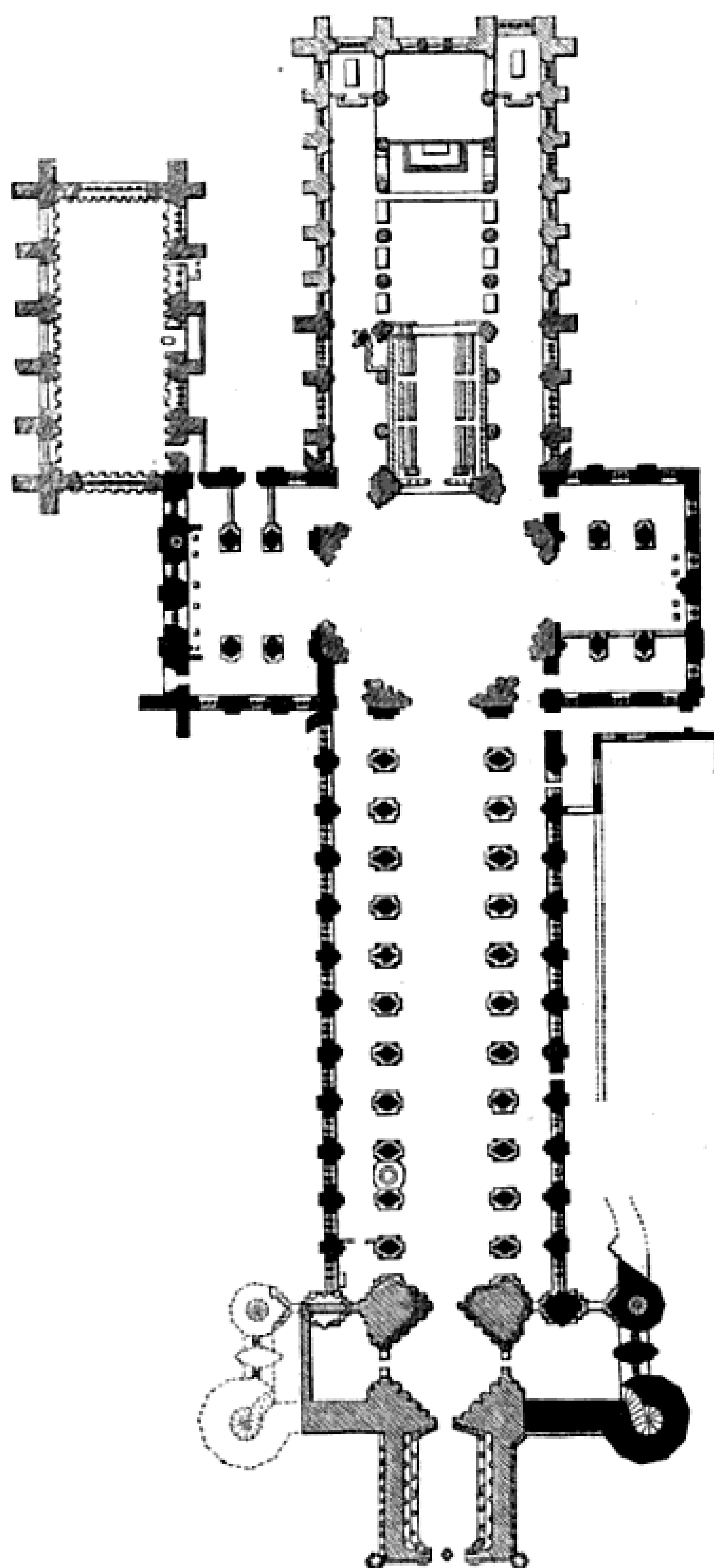
The sides of the nave can hardly be said to be finished. Originally it was intended to vault the central aisle of the nave, but this was beyond the means or the courage of the architect. The building of the pinnacles and flying buttresses was therefore abandoned, and the expedient adopted of covering the nave with a wooden roof in imitation of a stone vault. It probably was the first attempt of the kind, but was apparently deemed so successful that when the choir was reconstructed the wooden vault was determined on from the beginning, as no sufficient counterpoises for a stone vault were introduced; and had the architect avoided the falsehood of simulating a stone vault, this might have been as beautiful as the other, but the imitation is a mistake which nothing can redeem, and which is the one great blemish of the English style of the period.

Contemporary with Lincoln and York was Worcester, one of the

coldest and least effective of English cathedrals, though with many beautiful points of detail.

The west front of Peterborough belongs to the same great age, and as a portico, using the term in its classical sense, it is the grandest and finest in Europe, though wanting in the accompaniments which would enable it to rival some of the great façades of Continental cathedrals.

The presbytery of Ely is an exquisite specimen of the early pointed style of English art. The central part of that cathedral is perhaps the most beautiful and original design to be found in the whole range of Gothic architecture. In the year 1322 the old Norman tower that crowned the intersection of the nave and transepts fell down, and was rebuilt under the superintendence of Alan de Walsingham, at that time the sacrist. He, and he only of all the architects of Northern Europe, seems to have conceived the idea of getting rid of what in fact was the bathos of the style—the narrow tall opening of the central tower, which, though possessing exaggerated height, gave neither space nor dignity to the principal feature. Accordingly he took for his base the whole breadth of the church north and south, including the aisles, by that of the transepts with their aisles in the opposite direction. Then cutting off the angles of this large square, he

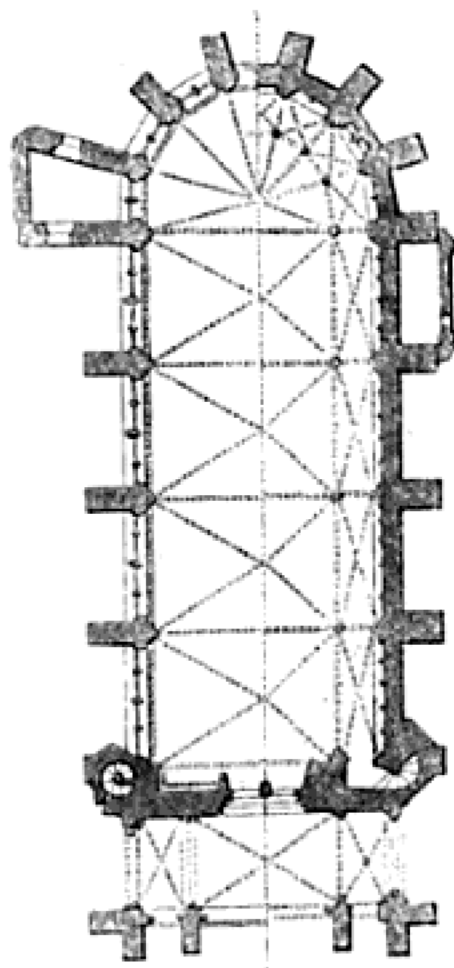


700. Ground Plan, Ely Cathedral. Scale 100 ft. to 1 in.

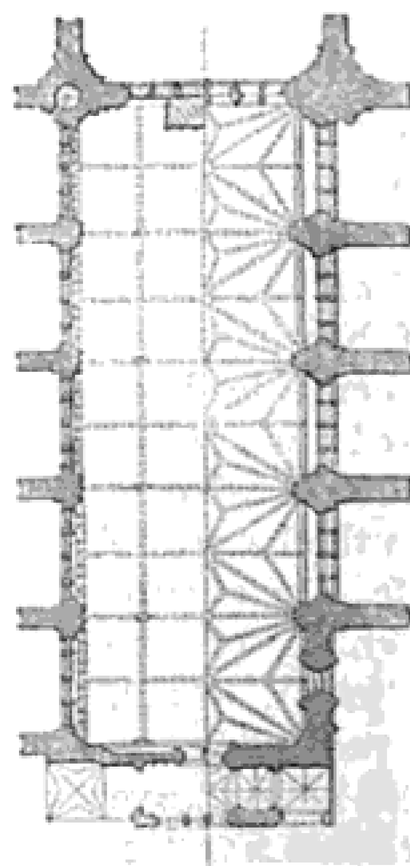
obtained an octagon more than three times as large as the square upon which the central tower would have stood by the usual English arrangement. This octagon was next covered with the only Gothic dome in existence, though Italian architects had done the same thing, and the method was in common use with the Byzantines. Unfortunately the roof, though in the form of a stone vault, is only constructed of wood like that at York. This was owing perhaps to the want of funds or of confidence. Perhaps at that time wooden roofs were even preferred to stone by the English, and the incongruity therefore did not offend. Be this as it may, the wonder is that when once this form was invented every Gothic edifice subsequently erected was not so arranged. It certainly was and is the feature most wanted to perfect the plans and to give the utmost effect to buildings of this class.

Besides the general beauty of design, the details of the octagon and of the three arches of the choir which were erected at the same time are equal to anything in Europe for elegance and appropriateness, and with the beautiful Lady chapel[1] of the same age make this cathedral quite a typical study of the architecture of the great Edwardian age.

As might be expected, *à priori*, the gem of English art was the chapel in the royal palace at Westminster. On this was lavished all that the metropolis could produce most exquisite in the arts of design, and this not in architecture only, but the best works of sculpture and the highest class of painting were put into requisition for its adornment.



701. Plan of Ste. Chapelle, Paris. Scale 50 ft. to 1 in.



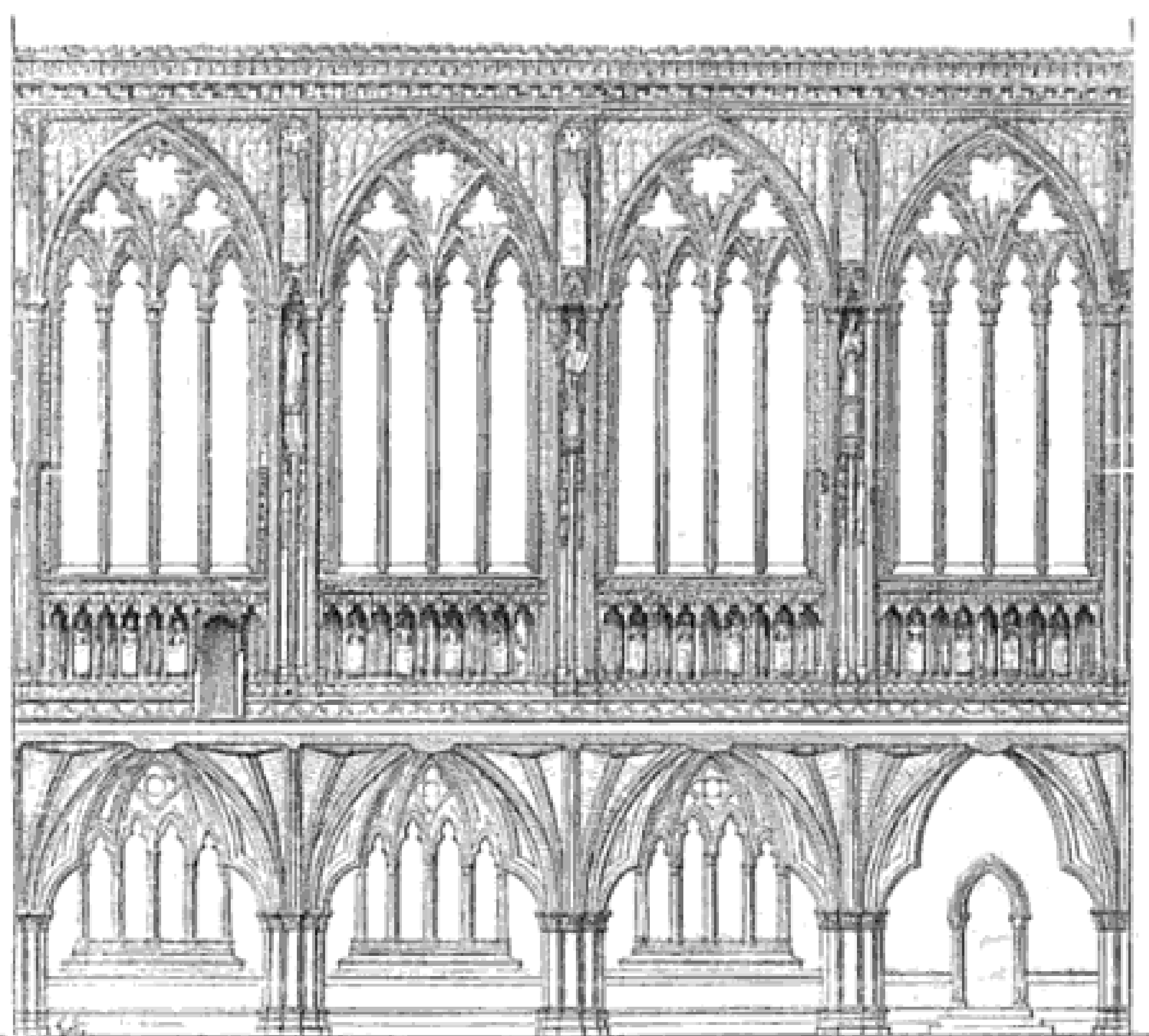
702. Plan of St. Stephen's, Westminster. Scale 50 ft. to 1 in.

[1] Is it quite clear that this building was originally designed as a Lady Chapel? might it not have been the Chapter House? In arrangement it is much more like the latter than the former.

The dimensions were not large, being only 90 ft. by 33 internally, and its roof was of wood, but so elaborate were its decorations that it must have cost more than many edifices three or four times its size. There can be no doubt that it was designed to surpass everything of the sort in England, and being erected wholly within the reigns of the three first Edwards it embraced the very best period of English art, answering to the Sainte Chapelle at Paris, which belongs to the great architectural age of St. Louis.[1] Yet all this has been ruthlessly destroyed to make way for the present unmeaning gallery that so unworthily occupies its place.[2]

As will be observed from the plans, drawn to the same scale, its dimensions were nearly identical with those of the Sainte Chapelle; the latter, however, having an apsidal termination, indispensable to a French church, is about 10 ft. longer internally. The right-hand side of both plans shows the vaulting of the crypts, and illustrates the immensely superior richness of the English vault. The roof of the English upper chapel being of wood, of course cannot be compared with the vault of the Sainte Chapelle, but the latter is infinitely inferior to that of the English crypt.

It certainly was not from motives of economy that the architects

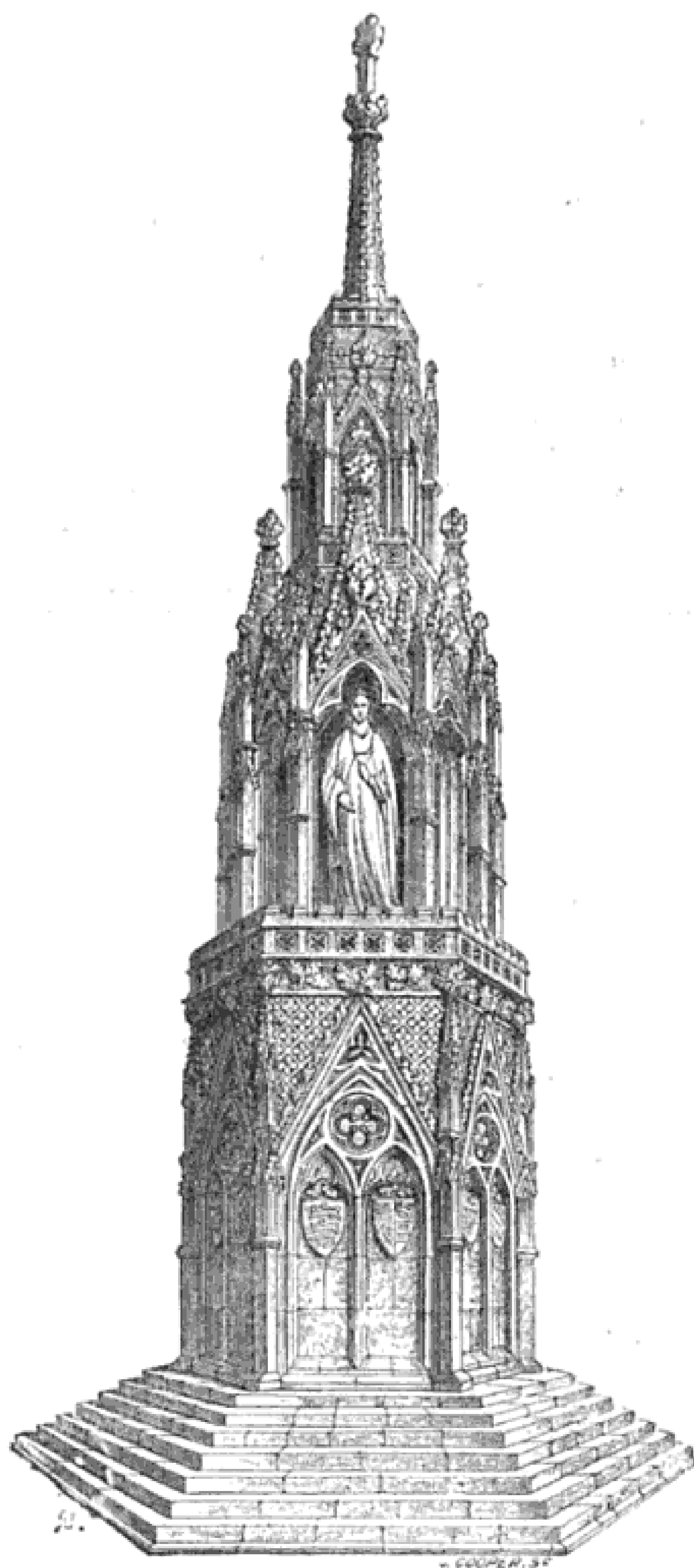


763. Internal Elevation of St. Stephen's Chapel, Westminster.

[1] The date of the French Chapelle may be taken as 1242—1248, that of the English as 1292; but the works were not finished till 1348, or about a century after the French example had been complete in all essentials.

[2] A folio volume was published by the Office of Woods and Forests, professing to illustrate the building they were destroying, but it was so badly done that it was virtually useless. It adopts the absurd theory of two stories above the crypt, and is full of errors.

of this building designed for it a wooden roof, nor from any difficulty they could have had of vaulting so narrow a space. It must have been because they considered such a roof as they were prepared to make would be more beautiful in wood than in stone: in which probably they judged correctly. From what remains it can be seen that it was a hammer-beam roof, similar to that which was copied from it and now spans Westminster Hall; but it no doubt was much more elaborate and beautiful.



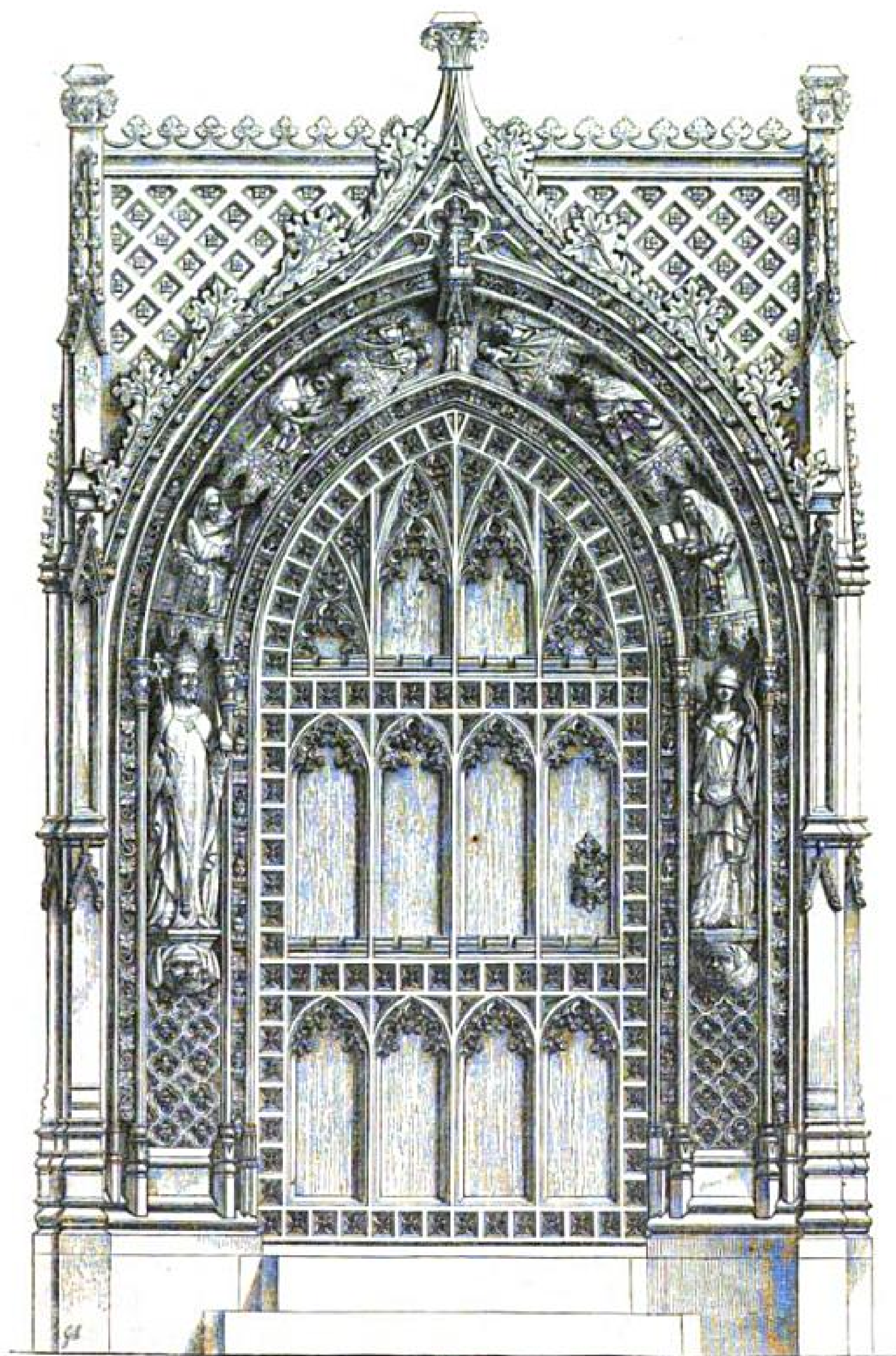
704. Waltham Cross.

The window tracery (woodcut No. 703) was of that beautiful style peculiar to the age, intermediate between the circular and flowing tracery, and of the same exquisite class now found in Merton chapel, Oxford, or the Lady chapel at Ely, the two buildings most like this now remaining to us, though both very inferior.

It was not only in the great churches or chapels that the architecture of this age showed its perfection. Nothing can exceed the beauty of the crosses which Edward I. erected on the spots where the body of Queen Eleanor rested on its way to London. One of these, Waltham Cross, is represented (woodcut No. 704). This, though not perhaps the best of the series, is quite equal to anything of its class found on the Continent.

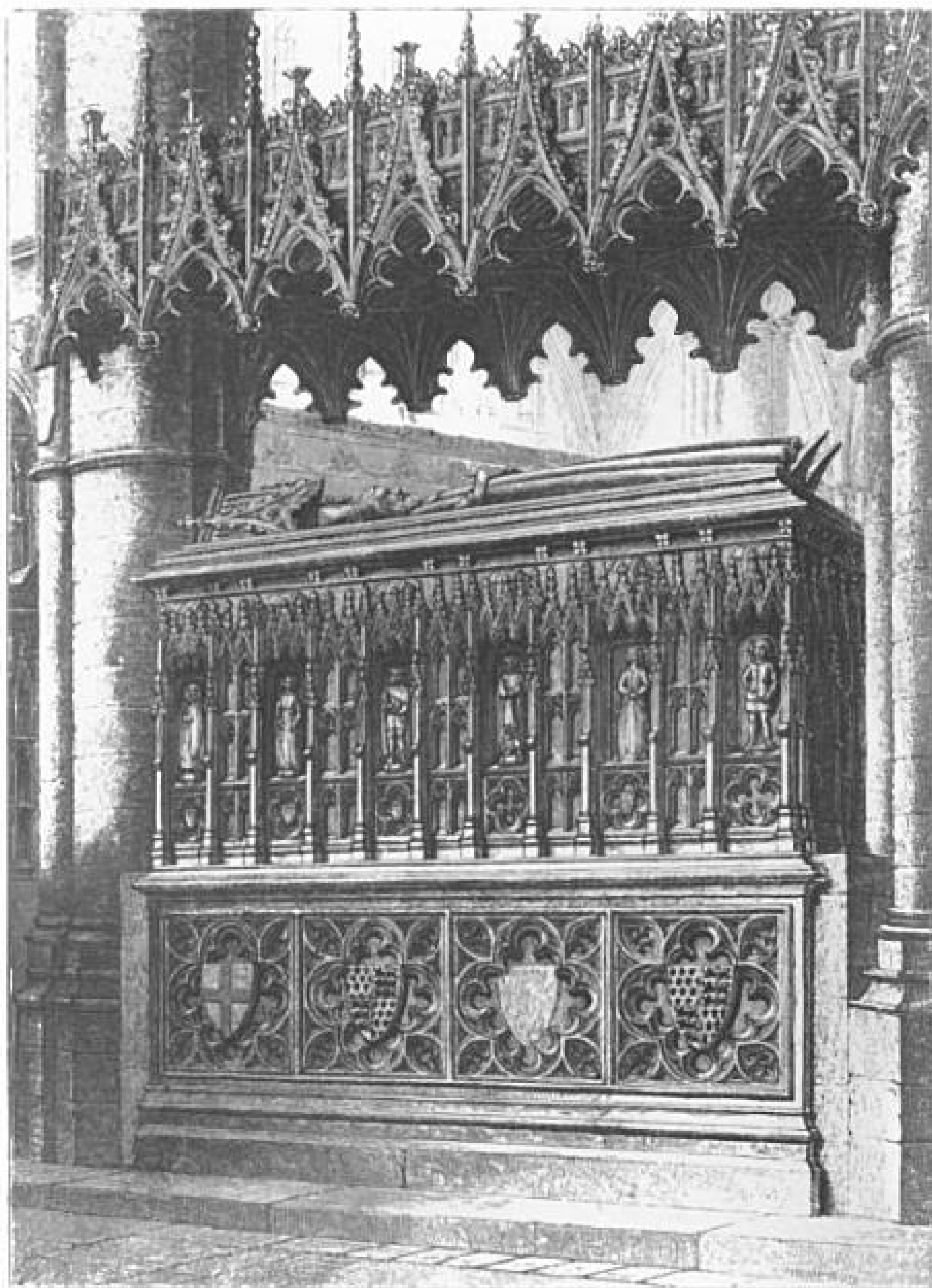
The doorway leading into the chapter-house of the cathedral at Rochester is a good specimen of the art of the next reign, having been erected, it is said, by Hamo de Hythe, confessor to Edward II., and displaying all the grace and beauty which characterised that age.

Another example is the tomb of Edward III. in Westminster



705. Doorway in Rochester Cathedral.

Abbey, erected immediately after his death. It betrays to a certain extent, in the smallness of its parts, the decline of art which was then taking place, but the canopy that surmounts it is equal in design to anything of the best age. It is of wood, in the carving of which the English architects always showed themselves superior to their rivals on the Continent.



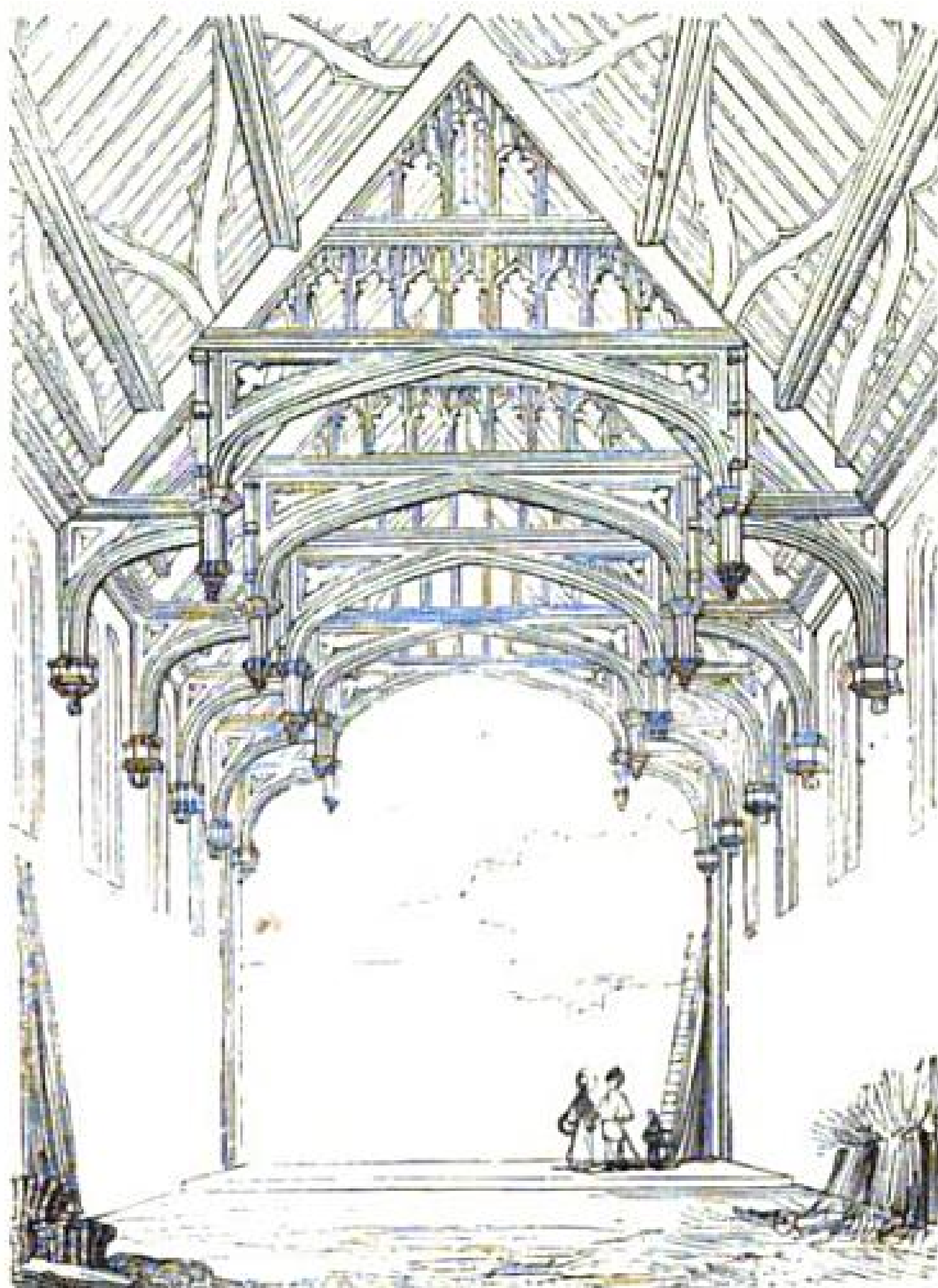
706. Tomb of Edward III. in Westminster Abbey.

This is nowhere more apparent than in Westminster Hall, which was the one great building erected during the reign of Richard II. It is 238 feet long by 68 feet wide internally, and, as originally erected by William Rufus, had two rows of pillars down the centre; these were removed by Richard, and the whole rebuilt nearly from the foundations.

It is now roofed by 13 great ribs of timber, which are quite un-

equalled by any other ornamental trusses of wood-work employed for such a purpose. Even when viewed only as a scientific combination of timber, this roof is as good as anything that has been done in this engineering age. If more light were introduced between the timbers, which could be easily done by the employment of dormer windows, no roof could be more pleasing. It is the finest specimen of the purely English art of forming Gothic roofs of timber. As before remarked, this was hardly ever attempted on the Continent; though the English employed timber as frequently probably as stone, and very often with almost as good an effect, not only in their halls, but also in their cathedral churches, from the time of the Conquest to the Reformation. The mistake was mixing the two, or using one style for both. Had the English architects always employed timber, they would have created a new style, and it is hard to say whether it would not have been more beautiful than the other.

The roof of the hall at Eltham palace (woodcut No. 707) is another



707. Hall of Palace at Eltham.

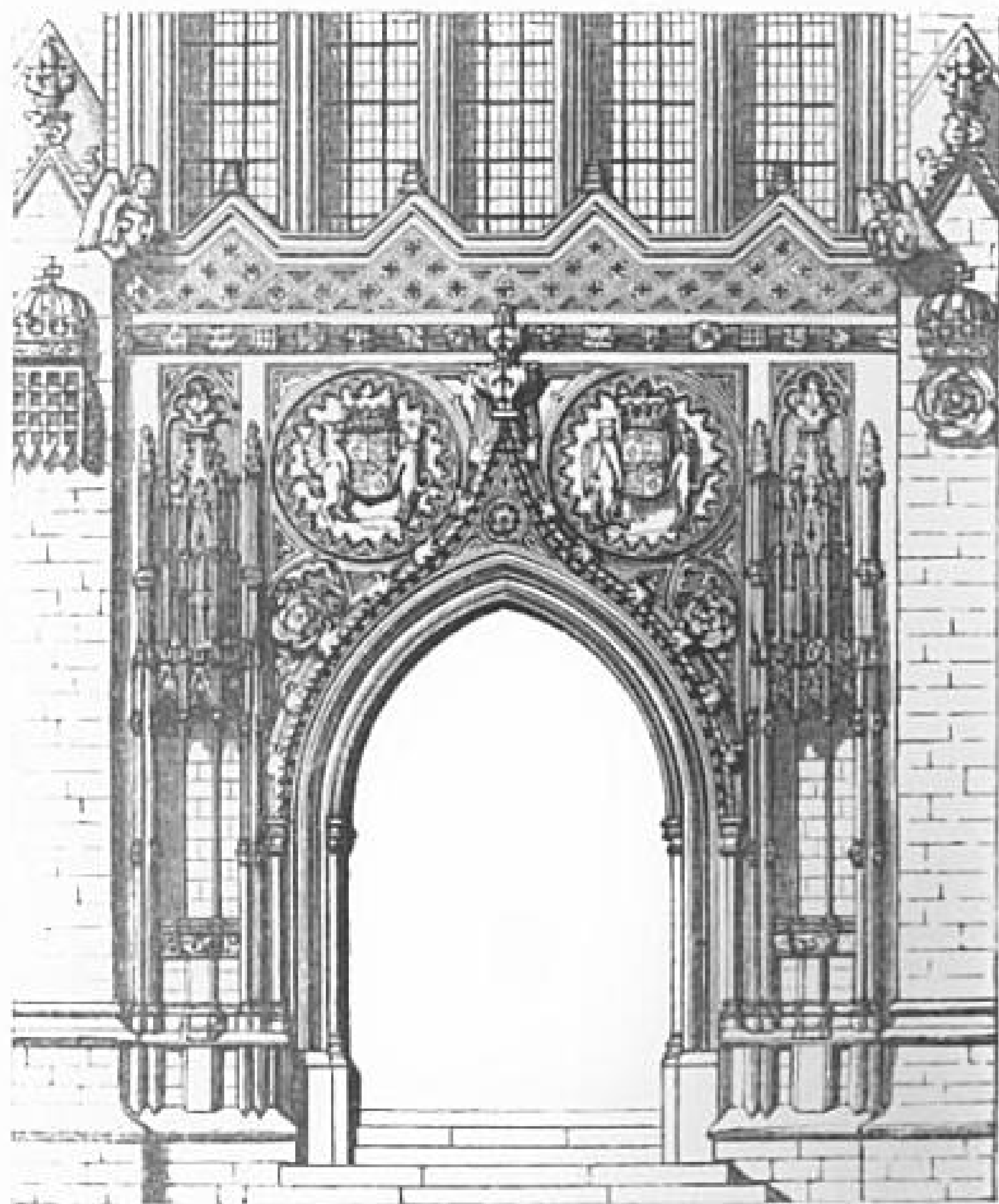
good example of the same class of roofing, though, being of a later age—that of Henry IV.—it is somewhat inferior in design to that at Westminster, besides wanting the dimensions which give such dignity to the latter.

During the period that elapsed between the reigns of the second and third Richards, the country was generally so troubled, and so occupied by foreign wars or domestic broils, that no very great works could be undertaken. Though many parish churches were erected, and repairs, sometimes rebuildings, were carried on to some extent in most of the large ecclesiastical establishments, it was the least active period, as far as building was concerned, which had occurred since the Conquest.

The history of the style in England closes most worthily with the completion of the three great royal chapels of the Tudor age. That at Windsor was commenced even before the age of Edward I. What we now see, however, belongs to a subsequent period, and the building was not completed till the reign of Henry VIII. King's College Chapel, though commenced by Henry VI., was not entirely finished till nearly a century afterwards, in 1530. Henry VII.'s Chapel belongs entirely to the reign of the king whose name it bears.

These chapels are infinitely superior to anything erected on the Continent at this time. Before they were finished the style in France had degenerated into mere prettiness, in Germany into extravagance, and in Italy the Renaissance had entirely obliterated all traces of Gothic design.

In England alone the style was still practised and retained its



708. Doorway, King's College Chapel

pristine vigour. Although the architecture of the Tudor chapels cannot be compared with the buildings of the three first Edwards either for boldness or elegance, it has beauties of its own which render it well worthy of admiration.

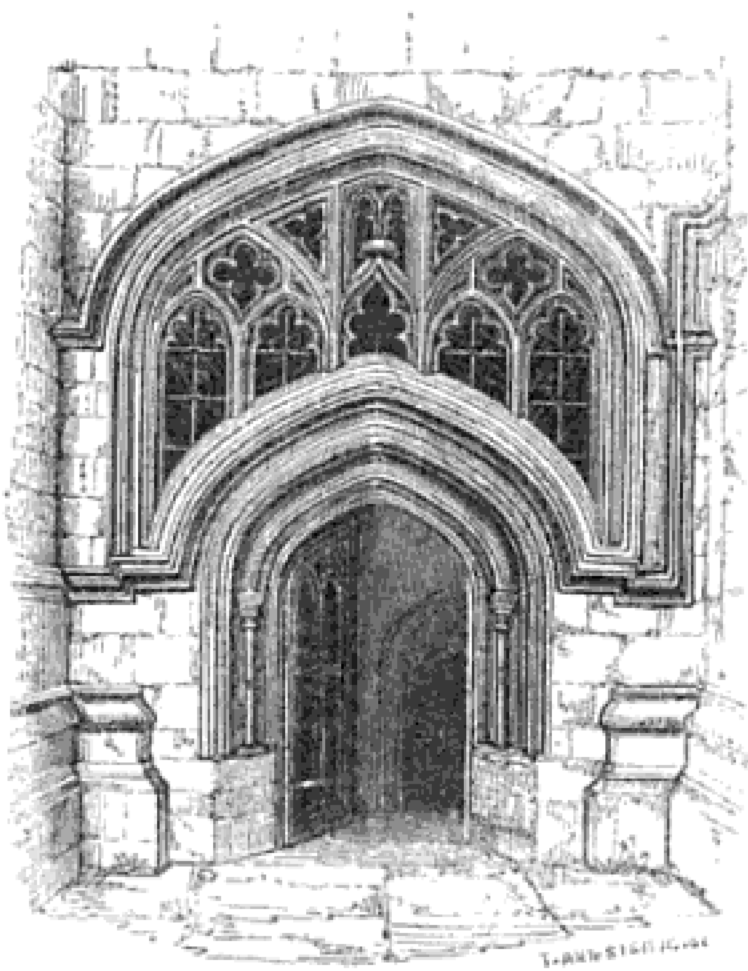
Foliage and sculpture had given way when these chapels were erected to the more mechanical form of decoration, and the endless repetition of the same parts. We miss in them entirely the poetry of earlier examples, and its place is but poorly supplied by the far greater mechanical dexterity which they display.

One of the characteristics of the Tudor style was the excessive use of panelling. The whole of the walls of these chapels internally is covered with it, and the windows consist merely of pierced panels. This, however, is managed with such taste throughout the chapel at Windsor, and in the clerestory, and at the west end of Henry VII.'s Chapel, that the effect is very pleasing; but at King's College the immense size of the windows, and their bad adaptation to the bays in which they are placed, render apparent all the defects of the style, and lay it fairly open to the reproaches which have been lavished upon it.

The most remarkable peculiarity of the Tudor style is the design of the vaults, which is of the kind called fan tracery, and is the most elaborate, perhaps the most beautiful style of vaulting ever invented, and so purely English that it will be desirable to reserve the description of it to a separate section devoted to explaining the peculiarity of English Gothic roofs.

The doorways of this style are frequently more picturesque and elaborate than the windows, owing probably to the circumstance that the windows were frames for painted glass, and nothing more, while the doorways, on the other hand, were entirely dependent on their architecture for their effect.

The doorway of King's College Chapel (woodcut No. 708) is certainly the most pleasing part of the design, and nothing can well exceed the grace of that leading to the cloisters at Windsor (woodcut No. 709). It has neither sculpture nor foliage of any sort to aid its effect, but is nevertheless singularly appropriate and beautiful.



709. Doorway to Cloisters, Windsor.

It would be impossible within the limits of this volume to attempt to describe, or even to enumerate, all the important edifices of the Gothic age which are found in every corner of the land. They are

perhaps more numerous than are to be found in France or in any country of Europe; for, though France can boast of 80 Gothic cathedrals, while we have scarcely more than one-fourth of the number, yet if we include the minsters, and the collegiate and abbey churches, we may nearly bring up our number to an equality. It is true most of the latter are in ruins, but still in such a state that we are perhaps better able to judge of their architectural effect than if they had been desecrated by the abominations of modern vulgarity.

If we take into account the parish churches, many of which in England are of great size, and quite equal in design to the cathedrals, there can be little doubt that the quantity of Gothic works in this country exceeds that of any other—or, to bring the assertion to a tangible standard, there can be little doubt that there are more windows filled with Gothic tracery in England than in France; and although it certainly must be admitted that the English cathedrals are far surpassed in size by many on the Continent, in excellence of art they are probably superior to those of France or any country in Europe.

Having now gone through the whole cycle of Gothic art, it may be as well, before leaving the last country where it was successfully cultivated, to pause and examine some of the more striking peculiarities of English architecture, and point out in what it differed from or resembled that of France.

CHAPTER II.

PECULIARITIES OF ENGLISH GOTHIC.

CONTENTS.

Vaults.

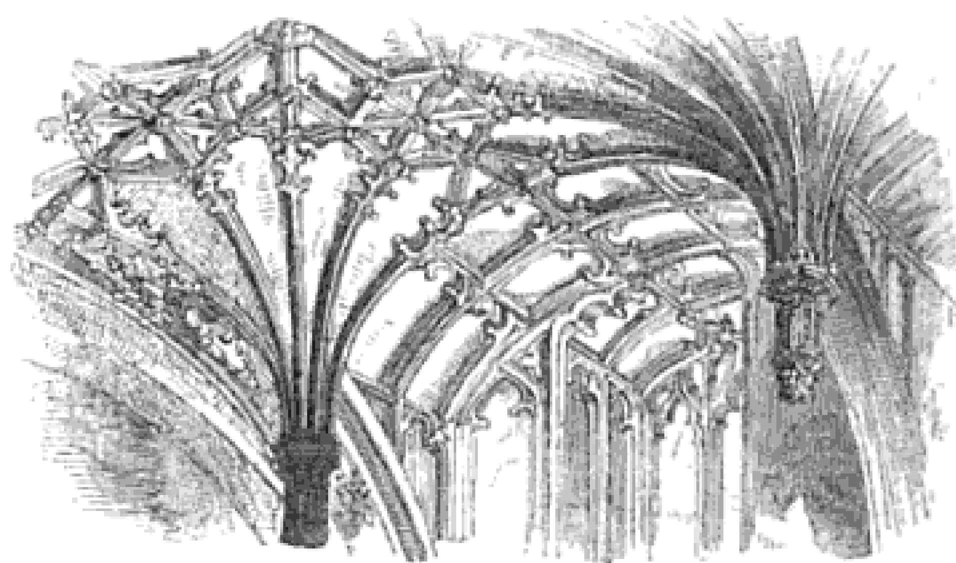
It has been said that the part of Gothic churches in which the English architects were most generally successful was the formation of their vaults, and their mode of ornamenting them, in both which particulars they were quite unsurpassed by any nation of the Continent, and scarcely even approached. This arose partly from the circumstance that the English always worked within their strength, the French on the verge of their ability, and from the consequent power which this gave to the former of subordinating constructive necessities to architectural beauty. Thus the English architects never attempted a vault of any magnitude till they were sufficiently skilled in construction to do it with facility. In a former chapter it has been pointed out how various and painful were the steps by which the French arrived at their system of vaulting—first by pointed tunnel vaults and a system of domes, then by a combination of quadripartite and hexapartite intersecting vaults, of every conceivable form and variety, but always with a tendency to domes, and to the union of all pre-existing systems. This experimentalizing, added to the great height of their roofs, and the slenderness of their clerestories, never allowed of sufficient freedom to enable them to study æsthetics in this part of their construction.

In England, on the other hand, no attempt was ever made to vault the central aisle of a large church during the Round Gothic or Norman period, all our great churches having been designed for wooden roofs, as is easily seen from the construction of the piers. In the Abbey of Caen, for instance (woodcut No. 525), it is evident from the bases of the piers that vaulting shafts were attached alternately of greater and less strength, clearly prefiguring the form of the vault intended from the foundation. No instance of the kind occurs in England: though roofing shafts are sometimes attached to the front of the piers, they are so slight, and carried up so high, that with the form of the clerestories they clearly show that they were never intended to receive a stone vault, but merely the principal timbers of the roof. Durham seems to be almost the only exception to this. A vault was

always intended there, but it was not till the 13th century that the builders had skill or courage sufficient to erect it.

There can be but little doubt that this practice was derived from the antecedent Saxon period. There is no trace or tradition of a Saxon vault anywhere. There are, on the contrary, many reasons for believing that not only the roofs, but the walls of many of these cathedrals, and most of the smaller churches, were wholly of wood. Being thus made familiar with this mode of construction, the Norman builders were in no hurry to adopt the false stone ceiling of the French. When they did undertake this, the experience obtained from the wooden roofs enabled them to surpass their masters in their own art. It first gave them the straight ridge rib which forms so beautiful a back-bone to all English vaults, and the want of which, as before remarked, is the cause of that appearance of weakness so common in French roofs. It also induced them to give far more depth and projection to the ribs and framing of their vaults; for being accustomed to greater depth and boldness of timber construction, their eyes could not tolerate the thin lines of the French *ogives*, or angle ribs, just sufficient for strength, but sadly deficient in expression, and in play of light and shade.

The same experience was also the cause of the cross-framings of the ribs, and of the introduction of all that network of riblets and ornaments which gives such character and beauty to English vaults. Still more certainly it gave rise to the profuse employment of sculptured bosses and carved ornaments, all which are quite peculiar to this country, and betray their wooden origin in a manner not to be mistaken. It is curious to observe that even as late as the Tudor age, this influence of wooden construction was not lost on the formation of vaults. Such an example as that represented in woodcut No. 710, from the roof of Oxford cathedral, might with propriety be called a hammer-beam vault, being in fact a copy in stone of that form of roof which covers Westminster Hall. The roof of the schools at Oxford also belongs to the same class.



710. Roof of Choir, Oxford Cathedral. From Britton's Cathedral Antiquities.

A Gothic vault depends for its preservation wholly on the wooden roof that covers it. Remove this, and in a few years exposure to the weather destroys a structure never meant to be so exposed. On the other hand, it must be recollected that the thrust of the vault is always tending to tear the edifice in pieces, and that more than half the expense of a Gothic church is caused by the necessity of counteracting this

thrust. It becomes very questionable whether the space, the lightness, and the constructive propriety that would have been attained by the omission of the false ceiling, would not have given rise to far more beauty than was obtained by its adoption. It is perhaps too late to try and settle the question now, as the experiment has never been fairly made. Be this as it may, it is quite certain that one of the practices adopted by the English architects, under foreign influence, was as great a mistake as could be committed—that, I mean, of forming imitation stone vaults entirely of wood. As before mentioned, York is so roofed, so is the choir of Winchester, and, worse than either, so is the splendid octagon at Ely.

Some have supposed that these were merely temporary expedients, and that it was intended to replace them at some future period by stone roofs in the same forms. I am much more inclined to consider them merely as a mode in which the English carried out a foreign invention, which had in process of time come to be considered an indispensable part of every first-class church. One of their own beautiful timber roofs would have been preferable, but even in the middle ages some mistakes were made.

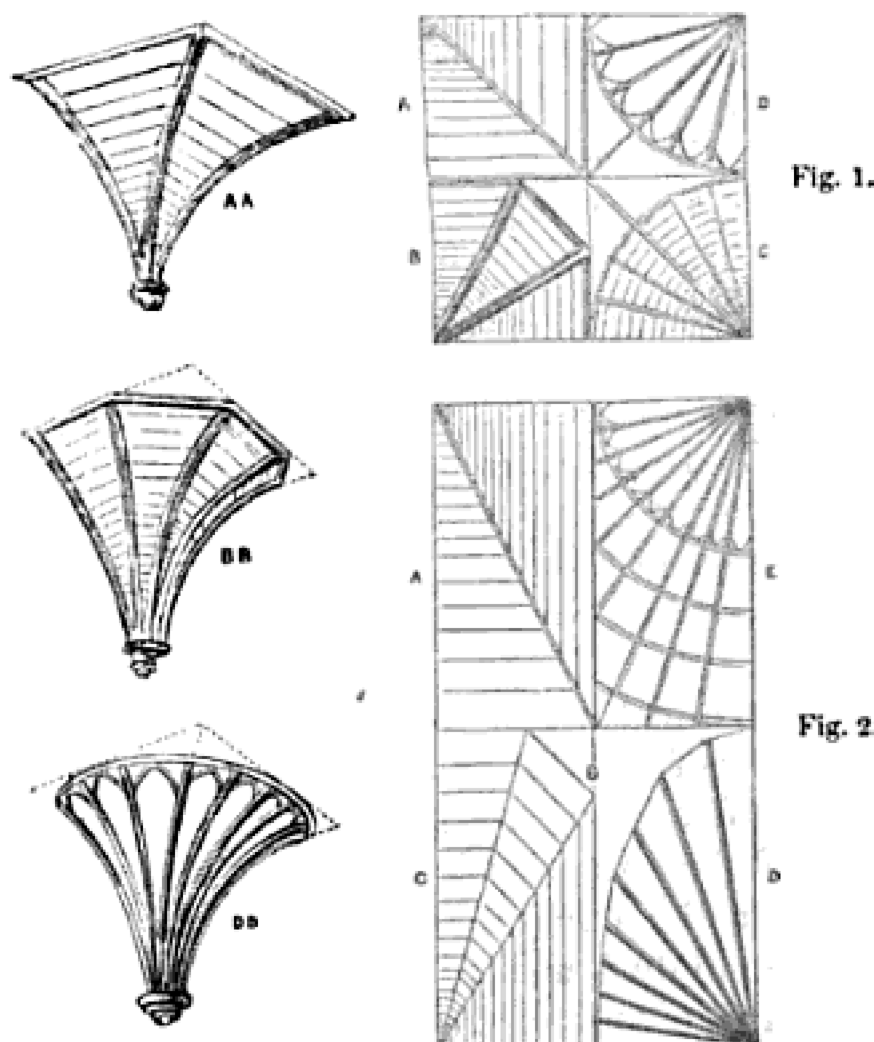
Notwithstanding what has been just said, it is not the less true that the vaulting was the first exigency of Gothic art, and that the invention of all the parts arose from this. It appears certain that the builders of the old English churches adopted from the Continent every form, detail, and even ornament, invented for the express purpose of stone vaults, though their own buildings were not designed to be so covered. Indeed, up to a certain point, an English wooden-roofed church is identical with a vaulted one; and it is only when we come to consider its strength, and to calculate its power of resisting thrusts, that we become assured that no vault was intended.

Beautiful therefore though the stone vaults of early English architects undoubtedly are, it is perhaps after all to be regretted that they did not work out their own system in their own manner. It is more than questionable whether, if the same money had been spent on timber-roofed cathedrals that was spent on those with vaults, the result would not have been more satisfactory. The gain in dimensions would at once have enabled English architects to surpass all Continental examples, the stability and propriety of the buildings would have been greater, and it is very questionable if they would have lost anything in beauty. Could they have had real stone roofs, as at Roslyn, the case might be different, but the combination of stone and timber is certainly a mistake; and, as was said before, the roof of Westminster Hall is as noble a thing as any vault in the kingdom, and if raised 50 or 60 ft. higher, and properly lighted, would have made a nobler nave than any which we possess.

The system of fan-vaulting is as peculiar to English architecture as the wooden roofs, and is so beautiful that it may be well to explain its origin and peculiarities.

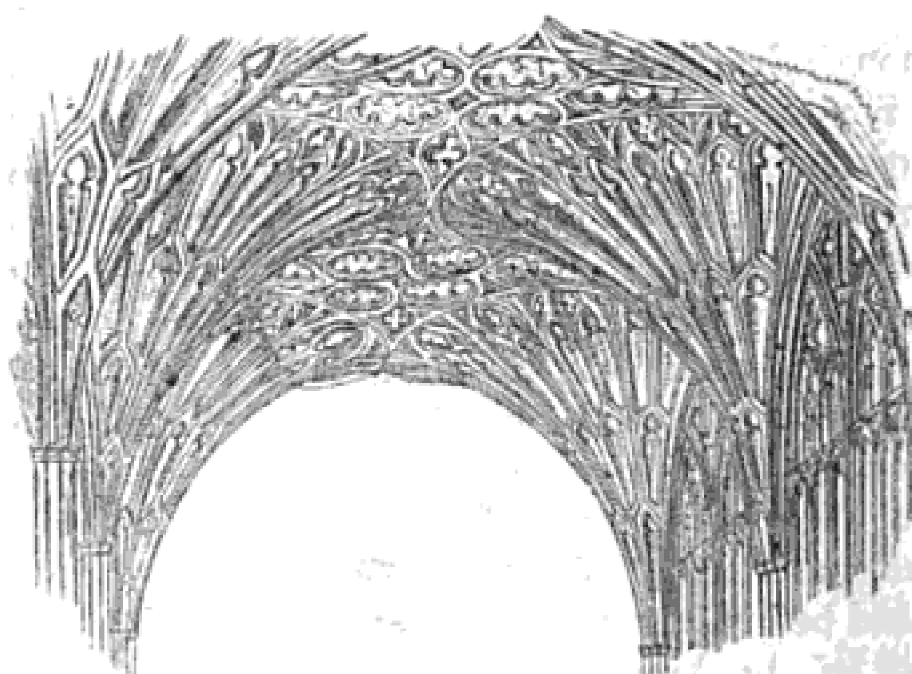
The original form of the intersecting vault is that of two halves of a hollow-sided square pyramid placed opposite one another in an in-

verted position,[1] as represented at A and A A (woodcut No. 711, fig. 1). The English seem early to have been tired of the endless repetition of these forms, and after trying every mode of concealing their sameness by covering them with tracery, they hit on the happy expedient of cutting off their angles, as shown in woodcut No. 711, and at B and B B. This left a flat square space in the centre of the vault, which would have been awkward in the central vault, but in a side aisle was easily got over, and its flatness concealed by ornament. Arrived at this stage, it was easy to see that by again dividing each face into two, as at C, the principal original lines were restored, and the central space could be subdivided by constructive lines to any extent required. By this process the square pyramid had become a polygonal cone of 24 sides, which was practically so near a circle that it was impossible to resist the suggestion of making it one, which was accordingly done, as shown at D and D D.



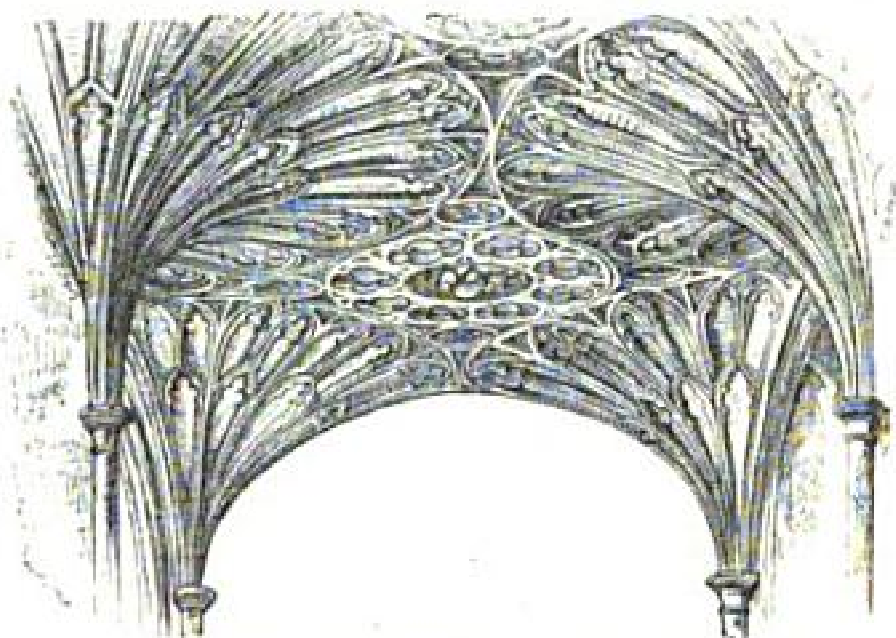
711. Diagrams of Vaulting.

So far all was easy, but the difficulty of the flat central space resting on the four cones was still felt to be a defect, as indeed is apparent in such a vault as that of the cloisters at Gloucester (woodcut No. 712), where a segment is used nearly equal to that of an equilateral spherical triangle. There they did not dare to employ a constructive decoration, but covered the space with


712. Roof of Cloister, Gloucester. From Britton.

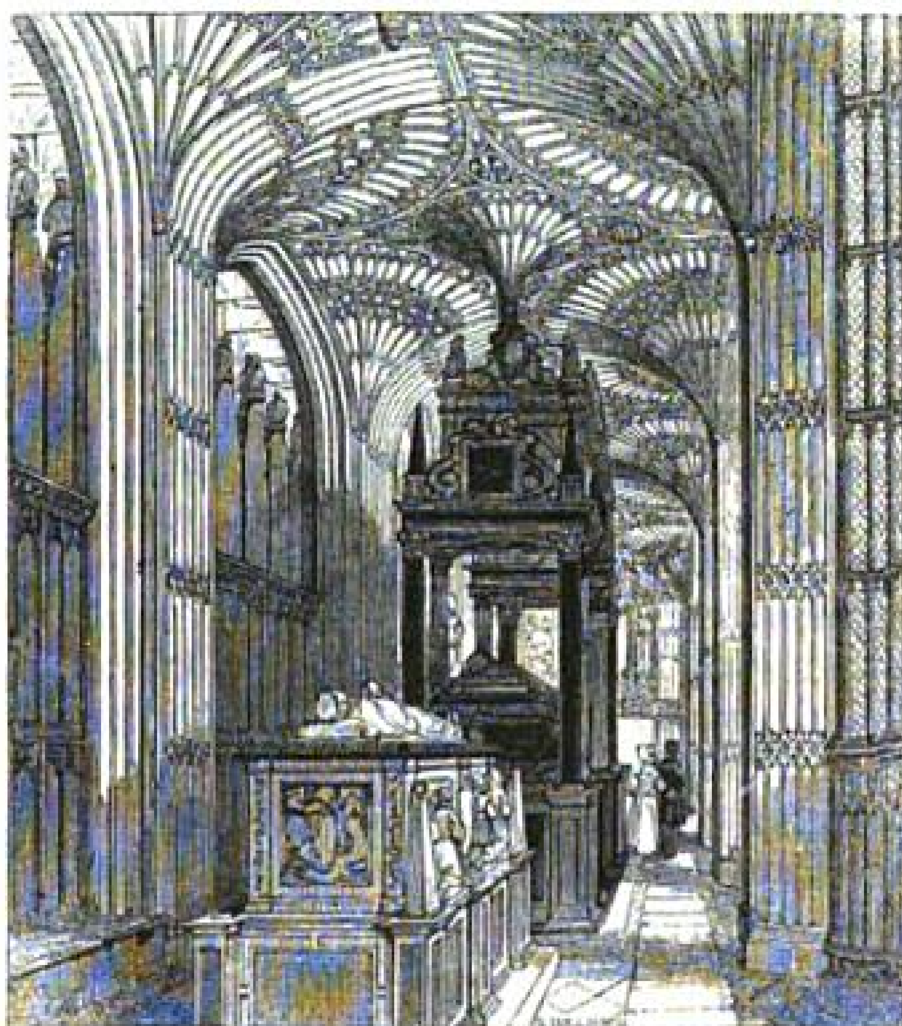
[1] This has already been explained in the chapters on French architecture, especially at pages 647 and 702.

circles so as to confuse and deceive the eye. At Windsor the defect was obviated by using a low four-centred arch invented for the purpose, so that the outer tangent of the conoid was nearly flat, and the ribs could be carried to the centre without being broken, as is shown in woodcut No. 713. This may be considered the perfection of this kind of vaulting, and is perhaps the most beautiful method ever invented. At Westminster the difficulty was got over by reversing the curve by the introduction of pendants. This was a clever expedient, and a startling effect is thereby produced, but it is so evidently a *tour de force* that the result is never quite satisfactory; still on a small scale it was admissible.



713. Vault of St. George's Chapel, Windsor. From Britton.

These devices all answered perfectly so long as the space to be roofed was square, or nearly so; but when this mode of vaulting came to be applied to the bays of the central aisle, which were twice as long in one direction as in the other, the difficulties seemed insuperable. By cutting off the angle as in the former instance (as at B, fig. 2, woodcut No. 711), you may get either a small diamond-shaped space in the centre or a square, but in both cases a very awkward pyramid; and carrying on that system to the curvilinear, you never arrive at a circle, but at an elliptical section, as shown in woodcut No. 711, at D, fig. 2.



714. Aisle in Henry VII.'s Chapel, Westminster.

The builders of King's College Chapel strove to obviate the difficulty by continuing the conoid to the centre, and then cutting off what was redundant at the sides, as in E, fig. 2.

The richness of the ornaments, and the loftiness and elegance of the whole, lead us to overlook these defects, but nothing can be less constructive or less pleasing than the abruptness of the intersections so obtained. At Westminster it was avoided by a bold series of pendants supported by internal flying buttresses, producing a surprising degree of complexity, and such an exhibition of mechanical dexterity as never fails to astonish, and is generally pleasing, though it must be confessed that it is at best a mere piece of ingenuity very unworthy of English art. By far the most satisfactory of these roofs is that at Windsor, where a broad flat band is introduced in the centre of the roof, throughout the whole length of the chapel. This is ornamented by panelling of the most exquisite design, and relieved by pendants of slight projection, the whole being in such good taste as to make it one of the richest and probably the most beautiful vault ever constructed. It has not the loftiness of that at Cambridge, being only 52 ft. high, instead of 78, nor is it of the same extent, and consequently it does not so immediately strike observers, but on examination it is far more satisfactory.

The true solution of the problem probably lay in a return to the hexapartite vault, from which the first constructors started, using alternately plain piers and vaulting-shafts, and throwing two bays of the side aisles into one of the centre. This might have somewhat shortened the apparent length of the building, but it would have afforded a pleasing variety of effect, and have allowed of fan vaulting being carried to its legitimate extent, and would have produced results probably more beautiful than any yet attained.

Square Eastern Terminations.

Another peculiarity of English design which requires to be pointed out before proceeding further, is that of terminating their cathedrals and churches to the eastward with a flat wall, instead of the apse or chevet which is so universal on the Continent. There are some exceptions abroad, such as Poitiers, Laon, and others; and in like manner we have some chevets here, as at Westminster, Tewkesbury, and elsewhere; but these, on both sides, are the exceptions, and are not sufficiently numerous at all to affect the rule. It must be observed that most of the Norman churches had originally apses, and some of them, as Norwich, Canterbury, and others, had apsidal chapels, which, if not identical with the French arrangement, are still so like it as to be classed in the same category. As soon as the English began again to feel their own independence, and to think for themselves, they abandoned wholly this form, and, with the rarest possible exceptions, adopted a mode of finishing their churches towards the east different from that adopted by any other nation. It is by no means clear whether the square east end was frequent or not in Saxon churches. We have no actual evidence for such a supposition, but it is rendered probable by the fact, that as soon as the Norman influence began to wane, the English made great haste to abandon the circular form, and for a reason which it does not seem difficult to divine.

It will be recollected that the original use of the apse in the early church was as a place for the bishop's throne, where he sat supreme above his presbyters, before all the people. On the Continent, where churches existed in which this ceremonial had been practised, the apse became sacred and symbolical. In England it was established after the custom had fallen into disuse, and this part of the ceremonial of the basilica was transferred to the chapter-house, which thus took the place of the apse, and became the diocesan parliament-house, where the bishop or abbot met his subordinate clergy, not to rule and command, but to consult and deliberate for the common weal. These local parliaments were from the earliest age as essential parts of the institutions of the Anglo-Saxon race as the imperial parliament now is. From this cause the circular or polygonal building, from being a baptistery or tomb-house, became in England the council-chamber, adopting exclusively the third reason alleged as among those which induced Cuthbert to erect his baptistery at Canterbury.[1]

On the Continent, it is true, there are chapter-houses to be found, generally square rooms with wooden roofs, and not remarkable for their architecture. In England the chapter-house is an absolutely indispensable part of any extensive ecclesiastical establishment, and in almost every case is more carefully designed and more elaborately ornamented than the church itself, its only inferiority being in size.

The Norman chapter-houses of Bristol, Durham, and Worcester, and the splendid Gothic buildings of this class at Wells, Lincoln, Salisbury, Lichfield, and Westminster, with such gems as those of Southwell and Hexham, include much of what is most elegant in design and most beautiful in detail in the architecture of England. Indeed a monography of these peculiarly national edifices would give a higher idea of the art as practised by our forefathers than even the churches themselves to which they were attached.

Whether this transference of the apse to a separate edifice was an improvement or not, is a question more open to discussion. Our only great chevet is that of Westminster Abbey, the design of which is perhaps imperfect from inexperience, and its effect is certainly not equal to the glorious wall of painted glass that closes the vista at York or Carlisle, and which once closed that of Lincoln, nor does it surpass in fanciful beauty the arrangements of Wells or Salisbury. To give to a chevet its full value, the church should be short and wide, and the side aisles high—indeed exactly the opposite of our style of building. It probably was the perception of this on the part of the architects, together with the want of all feeling for its symbolical use, that led to this mode of termination being so universally abandoned in England.

There are many minor peculiarities which might each be separately dwelt upon, were it worth while to draw a complete parallel between the French and English Gothic styles. The fact is, their modes of architecture were as dissimilar as the tastes and dispositions of the two nations were antagonistic to one another.

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[1] See p. 844.

How far they differed will be seen at a glance on comparing such a plan, for instance, as that of Norwich cathedral (woodcut No. 687) with any of those of the Continental examples quoted in the previous pages. It will be seen how immensely long this church is in proportion to its other dimensions. In this respect it is typical of all English examples, as compared with the cathedrals of any other country. So universal is this even in Norman buildings, that there can be little doubt that the Saxon churches had the same tendency, and that from them it was applied to those erected after the Conquest. As a general rule it may be said that length is the characteristic of English and height that of French cathedrals. The English architects always strove after the first, even at the expense of other obvious means of effect. The French, on the contrary, sacrificed everything to obtain height, which they considered the true element of sublimity. With some it may be a matter of doubt which is the best system, but there seems no reason for hesitation in declaring in favour of the English, if either extreme is to be adopted, although, as in most cases, a mean between the two would perhaps be preferable to either.

It cannot of course be doubted that of the three points of length, breadth, and height, the last is, generally speaking, the most obvious element of sublimity, externally at least, and internally also, where the other parts are in proportion; but it is easy to make an apartment so high as to dwarf all the other dimensions, and render it positively ugly. Owing to their excess of height, the French cathedrals always appear short, and, what is worse, there is generally a look of frailty about them, an impression either that all is not quite safe, or that stability is attained by some extraordinary trick of construction or concealed power. This is never the case in England. There is always a look of solidity and calm repose about our cathedrals that quite satisfies the mind; and, next to actual size, there are no elements of architectural grandeur so important as solidity and apparent durability. These we miss wholly in such a cathedral as Beauvais, and even Amiens is not satisfactory in this respect. Rheims and Chartres come nearer to the English standard, but even they are less substantial than almost any English example that could be quoted. The Egyptians carried to excess the love of massive construction, it being their principal element of grandeur; and though it would be absurd to adopt their principle to its full extent, the other extreme, to which the German and later French architects carried their cleverness, is one of the greatest mistakes ever committed in art. This the English always avoided. At the same time the proportion of height to width in English cathedrals is generally pleasing; both height and width are always sufficient to give value to the length without being overpowered by it, and the furniture of the churches is always appropriate and in due proportion; while, on the Continent, these objects often look like toys. On the whole, the sentiment of sublimity felt on entering an English cathedral, arising from the great length of its long-drawn aisles, from the multiplicity of repeated parts, and the unity given by those that are open and those that are enclosed, is perhaps quite as impressive as that

produced by the height of the French examples, in many cases probably more so.

Again, as regards the exterior, the English method, if fairly weighed, will be found even more satisfactory. French cathedrals always appear short externally, and their enormous roofs overpower and crush everything below them. The French architects never could obtain the beautiful skyline, or give value to their towers, as the English invariably did. As already remarked, the central spire at Amiens is as high as that of Salisbury, but is reduced by its position to a mere pinnacle. It was indeed impossible for the French to erect a central tower which should domineer over their lofty roofs in the same majesty as those which crown the greater number of our cathedrals. That at Amiens must have been at least 600 ft. in height to give it dignity, but the piers could never have been made solid enough to support a spire of the requisite height without inconveniently crowding the floors. Even of the towers at the west ends, those at Amiens, though higher than those of York, are buried in the roof and totally overpowered. At Chartres they are high enough to redeem themselves, but they would be far nobler objects if attached to a building at least 50 ft. lower. This is never the case in England. The single spires of Salisbury, Norwich, or Chichester, though by no means lofty in themselves, are nobler features, giving far more dignity to the edifices on which they are erected than they would give if standing on the ground at their west ends, as at Friburg or Mechlin. The three towers of York, Lincoln, and Wells form groups far more beautiful in themselves, and in better proportion to their substructures, than anything the Continent can boast of, while the three spires of the little cathedral at Lichfield are absolutely unrivalled among compositions of this class. Its central spire is 252 ft. in height, the western spires 192 ft., yet they are so beautifully proportioned to one another, as well as to the building to which they belong, that they are far more effective than any similar examples on the continent of Europe.

Another advantage the English architects gained from the great length and moderate height of their cathedrals, was the power of projecting their transepts so as to give the greatest possible variety to their outline, and a play of light and shade perfectly unrivalled. In most instances the French kept the line of their transepts actually within that of the side aisles, and their best examples are those where, as at Bourges (woodcut No. 555) or Bazas (woodcut No. 554), they omitted the transept altogether, or others where they kept it as much down as possible. It was a blunder worthy of a German to project a transept two bays in so short a cathedral as that at Cologne; but the English could extend them to three or four bays, and even use two transepts—could indeed play with their outline as they chose, and still the building never appears too short, or in any way out of proportion.

Again, a great charm of English cathedrals is their repose of outline. A French cathedral is surrounded by a multitude of pinnacles, flying buttresses, and other expedients to keep the building from falling. It is true that these objects were made ornamental; but though it is

vicious to conceal construction, it is bad architecture to let the devices of construction predominate over the actual outline of the main building itself. Not only does it suggest weakness, but it produces a flutter and perplexity that never is nor can be satisfactory. These faults are as usual exaggerated at Cologne, but almost all French cathedrals exhibit



715. View of Lichfield Cathedral. From Britton's Cathedral Antiquities.

them, though to a less extent. It would be difficult to find a single instance of these faults in England. The pinnacles and buttresses seem always put there more for ornament than for any other purpose, and as if to suggest the idea of superabundant strength rather than to counteract apparent weakness. The walls always seem to suffice, and these to be merely adjuncts.

All this exemplifies the observation made above, that the French were always working up to the limits of their strength, always trying to make their piers as light, their windows as large, and their vaults as high as possible, doing all they could, and striving to do more; while the soberer English architect, on the contrary, attempted nothing over which he had not full command. Hence we find the one style full of mere tricks and *tours de force;* in the other a character of repose, and, considering their relative dimensions, generally speaking a far more satisfactory architectural effect. In comparing French with English cathedrals, this remarkable contrast in their respective dimensions should always be kept carefully in sight. Thus in the two contemporary cathedrals of Salisbury and Amiens, so often compared with one another, their length is very nearly the same, but the French church covers 71,000 square ft., the English only 55,000. The vault of the first is 152 ft. in height, the latter only 85. Altogether the cubic contents of Amiens are at least double those of Salisbury, and the labour and cost bestowed upon it must have been more than double. Thus in making a comparison between the two, the fair mode is to ask whether the cathedral of Amiens is finer than Salisbury would be if at least twice as large as it is.

In like manner, in comparing the design of Lichfield with that of Cologne, we must recollect that the one covers 82,000 ft., the other only 34,000. The vault at Cologne is 152 ft. high, that at Lichfield only 55. The beautiful western spires of the latter are of the same dimensions with the four pinnacles that crown the western towers of the former, where the square changes to an octagon. The question is, would the design of Lichfield, if magnified four or five times, be as beautiful and as sublime as the great German cathedral? As it is, it requires all the magnitude of the latter to enable it to compete with so thoroughly artistic a group as that shown in woodcut No. 715; and there is hardly a single English cathedral which does not possess this beauty of outline in a greater or less degree. I feel convinced that, had our architects had the same advantages as were possessed by their Continental brethren, they would have surpassed as they now rival them. The great merit and the great secret of French architecture, as practised in the 13th century, is, that it is original; and the architects, uninfluenced by precedent, were doing the best they could to attain a perfectly definite aim, and doing this with an earnestness that has never been equalled, and on a scale that has seldom been surpassed. The English, on the other hand, did not invent the style, and consequently were never quite free from foreign influence, but they applied it after a manner of their own, with a propriety and an elegance which, considering the scale of their buildings, render theirs perhaps the most pleasing and harmonious, and also the most picturesque, of all the varieties of the Gothic style.

In one other respect the French architects were very much more fortunate than their English competitors, inasmuch as all their greatest and best cathedrals were built, as they express it, *d'un seul jet*, having been completed, in all essential parts, within a century from the time

at which they were commenced. That period too was their greatest epoch, the glorious 13th century. The erection of our English cathedrals, on the other hand, generally dragged on through two or three centuries. Many have their naves and transepts of various architecture, and exhibit examples of almost every style, from the introduction of the pointed arch till its decline under the Tudors. This gives them a certain degree of historical interest, and also in some instances a picturesqueness of effect, the value of which cannot be denied, but it destroys their value as architectural compositions, and prevents their competing on anything like fair terms with the great Continental examples. The exception to this rule is Salisbury, but unfortunately it was erected just after the pointed style had been introduced into this country, and when its principles or details had not been fully mastered, nor worked into the system of English art so as to enable it to take its place as an independent style. The consequence is that Salisbury is one of the leanest and poorest of our cathedrals, and notwithstanding an undeniable elegance of form, perhaps the one least capable of bearing a comparison with Continental rivals.

Among the differences between the French and English architects there is none more remarkable than the feeling for the picturesque that always guided the latter, while it can hardly be traced in the works of our Continental neighbours. The variety of plan and outline just pointed out is the most obvious manifestation of this good taste, as far as the building itself is concerned, but it is even more remarkable in the choice of the site and the arrangement of the accessories. Nothing, for instance, can be more commandingly placed than Durham and Lincoln, nothing more beautiful than even the lowly situations of Wells and Salisbury; and even in spite of all that modern vulgarity and bad taste have done to spoil the works of our forefathers, almost all our cathedrals still retain spots of green and alleys of tall trees, which, grouping so pleasingly with the towers and spires, give such value and beauty to the architecture. As a general rule they stand on the very outskirts of the town, either overlooking it from a height or nestled down on the banks of some little streamlet of pure water.

French cathedrals, on the other hand, always stand in the market-place in the very centre of the town, with no grass-plot in front, and no room for a park-like scene on any side. They are often too surrounded by shops and hovels, built up even against their walls, and this not in modern times, but frequently these abominations are coeval with the cathedral itself, and seem never to have been objected to; nor do I know in all France or Germany of one single instance of that *religio loci*, that hallowed *temenos*, which is so marked a feature of the precincts of our English cathedrals. The fact is, the English were always lovers of the picturesque, and English architects always more or less landscape gardeners. The French, on the contrary, are almost totally deficient in this taste. With them the town is everything, the country and all belonging to it being altogether secondary. This is a distinction which it is necessary to bear in mind in judging of their architecture, for our outlines and our forms would lose half their value

if placed in narrow streets and crowded thoroughfares, while a French cathedral standing in a park would be a gigantic deformity, disfiguring rather than adorning a scene to which it would be so ill suited. It should be placed among tall houses, and so that its whole outline can never be grasped at one glance. Trees are, on the other hand, almost an indispensable complement to English architecture, and it is only at a distance that we can appreciate all the variety and picturesqueness of the outlines of our best churches.

COMPARATIVE TABLE OF ENGLISH CATHEDRALS.[1]

	Area.	Length inside.	Western Towers.	Central Towers.	Height of Nave.	Height of Choir.	Width of Nave.	Width of Choir.	Width of Central Aisle.	Approximate ratio of Height to Width.	
	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.		
York	72,860	486	196	198	93	101	106	102	51	1 to	2
Lincoln.. ..	66,900	468	206	258	82	71	80	81	39	1	2
Winchester ..	64,200	530	..	140	76	..	85	..	35	1	2·43
Westminster..	61,729	505	220	..	103	..	75	..	35	1	3
Ely	61,700	517	215	170	72	70	75	..	34	1	2·1
Canterbury ..	56,280	514	152	229	80	70	73	85	33	1	2·4
Salisbury ..	55,830	450	..	404	84	..	82	..	35	1	2·3
Durham ..	55,700	473	164	216	74	..	81	77	32	1	2·3
Peterborough	50,516	426	154	143	78	..	79	..	36	1	2
Wells	40,680	388	125	165	67	..	69	..	34	1	2
Norwich ..	40,572	408	..	309	73	..	70	..	26	1	2·8
Worcester ..	38,980	387	..	191	66	..	78	..	32	1	2·45
Exeter	35,370	383	..	..	70	..	72	..	34	1	2·1
Lichfield ..	33,930	319	192	252	55	..	66	..	28	1	2

[1] It is not pretended that this Table is quite correct in all details, but it is sufficiently so to present, at a glance, a comparative view of the 14 principal churches of England, and to show at least their relative dimensions.

CHAPTER III.

ARCHITECTURE OF SCOTLAND.

CONTENTS.

CHRONOLOGY.

		Dates.			Dates.
Malcolm Canmore.	Accession . . .	A.D. 1057	David II.	Accession . . .	A.D. 1329
David I.	„	1124	Robert II., Stuart	„	1371
William the Lion	„	1165	James I.	„	1406
John Baliol	„	1292	Mary Queen of Scots	„	1542
Robert Bruce	„	1306			

The architecture of Scotland differs from that of England in so many essential particulars, that it is necessary to treat the northern part of the island as a totally distinct architectural province. Though so near a neighbour, and so mixed up with England in all the relations of war and peace, the Scotch never borrowed willingly from the English, but, owing probably to the Celtic element in the population, all their affinities and predilections were for Continental nations, and especially for France. So completely is this the case that there is scarcely a single building in the country that would not look anomalous and out of place in England; and though it is true that the edifices are not entirely French in design, the whole taste and character of them is Continental, though wrought out in a bolder, and generally in a simpler and ruder fashion than the corresponding examples in other countries.

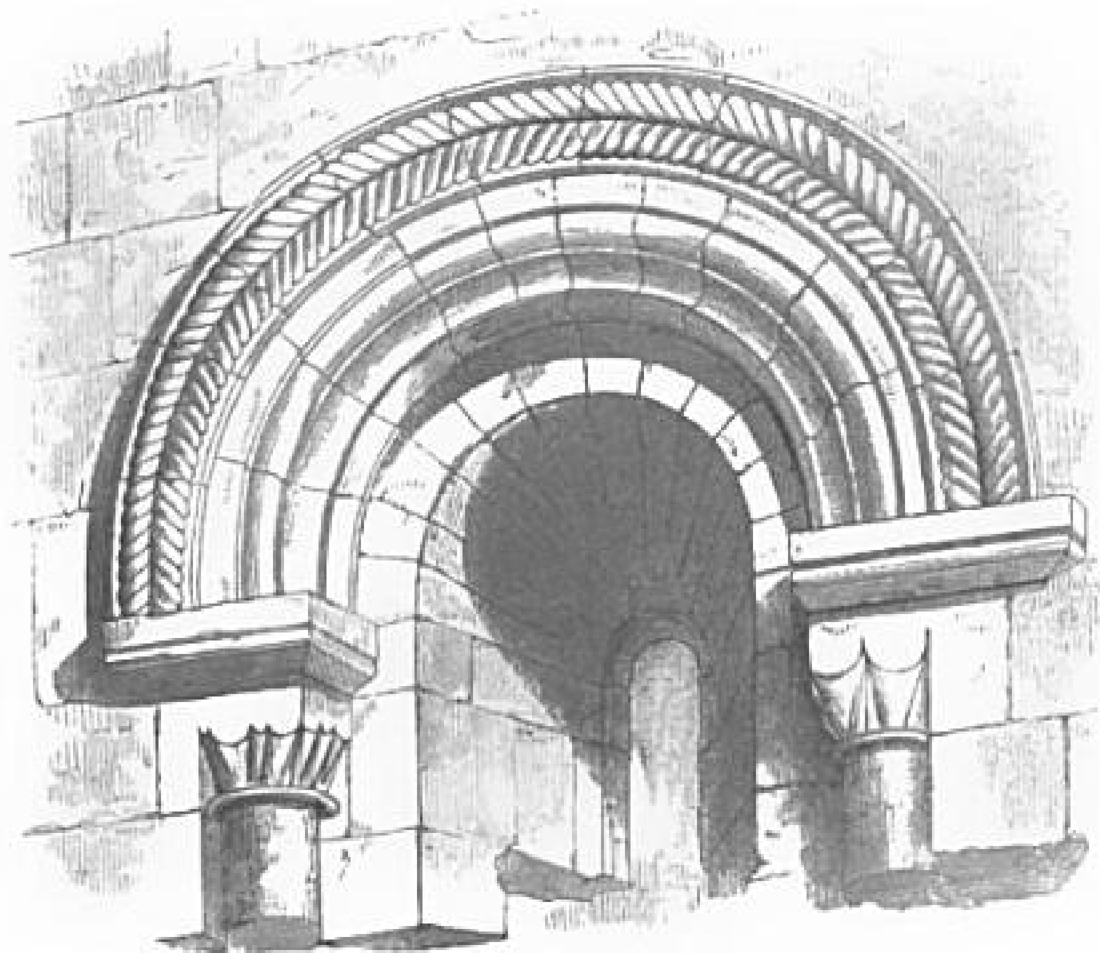
Gothic architecture first appeared in Scotland in the 11th century. At that time the country was in a most uncivilized state, and the specimens are few and of the rudest description. In the 12th century, when the style was somewhat more developed, it resembles much more what is found at Trondhjem in Norway than anything at Caen or in the South of Europe.

The buildings of David I. gave an immense impulse to the Round-arched style, which continued for nearly a century after his time, and long after the pointed arch had been currently used in the South. It is true we find pointed arches mixed up with it, as at Jedburgh, but the pillars and capitals are those of the earlier orders; and the circular arch continued to be used from predilection wherever the constructive necessities of the building did not suggest the employment of the pointed form.

The one thing which the Scotch seem to have borrowed from the English is the lancet form of window, which suited their simple style so completely that they clung to it long after its use had been abandoned in England. This circumstance has given rise to much confusion as to the dates of Scottish buildings, antiquarians being unwilling to believe that the lancet windows of Elgin and other churches really belong to the middle of the 14th century, after England had passed through the phases of circle and flowing tracery, and was settling down to the sober constructiveness of the perpendicular.

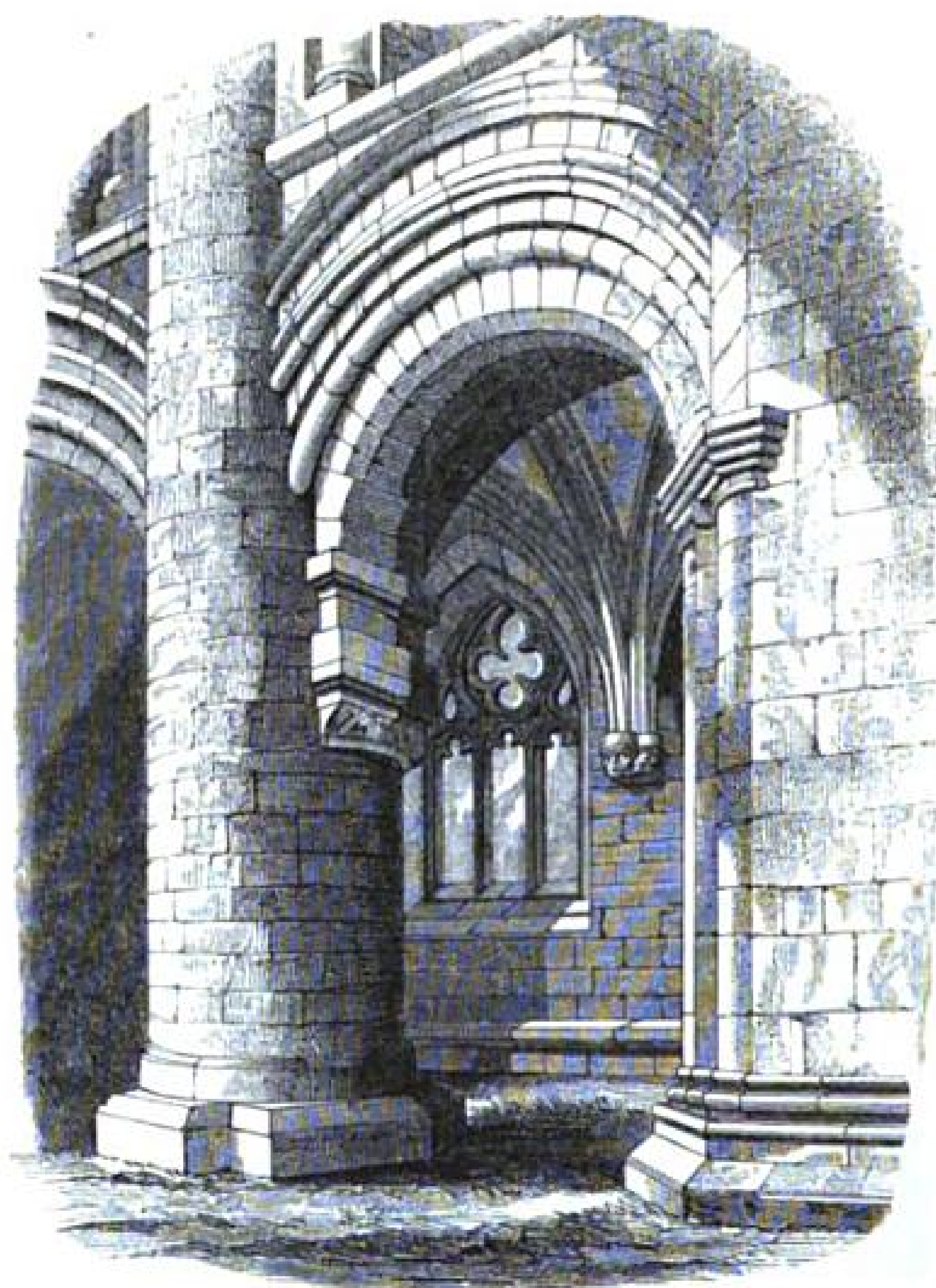
Owing probably to the little leisure allowed by the wars with England during the reigns of the three first English Edwards, we have in the North hardly any traces of their style. Circle tracery is very little known, and English flowing tracery hardly to be found in all Scotland. It is true that a class of flowing tracery occurs everywhere in Scotland, but it is, both in its form and age, much more closely allied to French flamboyant than to anything found in England. It was used currently during the whole period between the 2nd and 3rd Richards, and even to the last during the Tudor period of England.

The one great exception to what has been said is the east window of the border monastery of Melrose; but even here it is not English perpendicular, but an original mode of treating an English idea, found



716. Window, Leuchars. From a drawing by R. W. Billings.[1]

[1] The illustrations in this chapter being taken from the beautiful work by R. W. Billings, entitled the Baronial and Ecclesiastical Antiquities of Scotland, the authorship of each will not be mentioned, except when it forms an exception to this rule. Mr. Billings's work is certainly the most correct and beautiful that has yet appeared on the subject, and if completed with the necessary plans and architectural details, would be unrivalled as a monography of an architectural province.



717. Pier Arch, Jedburgh. R. W. B. del.

only in this one instance, and mixed up with the flowing tracery of the period.

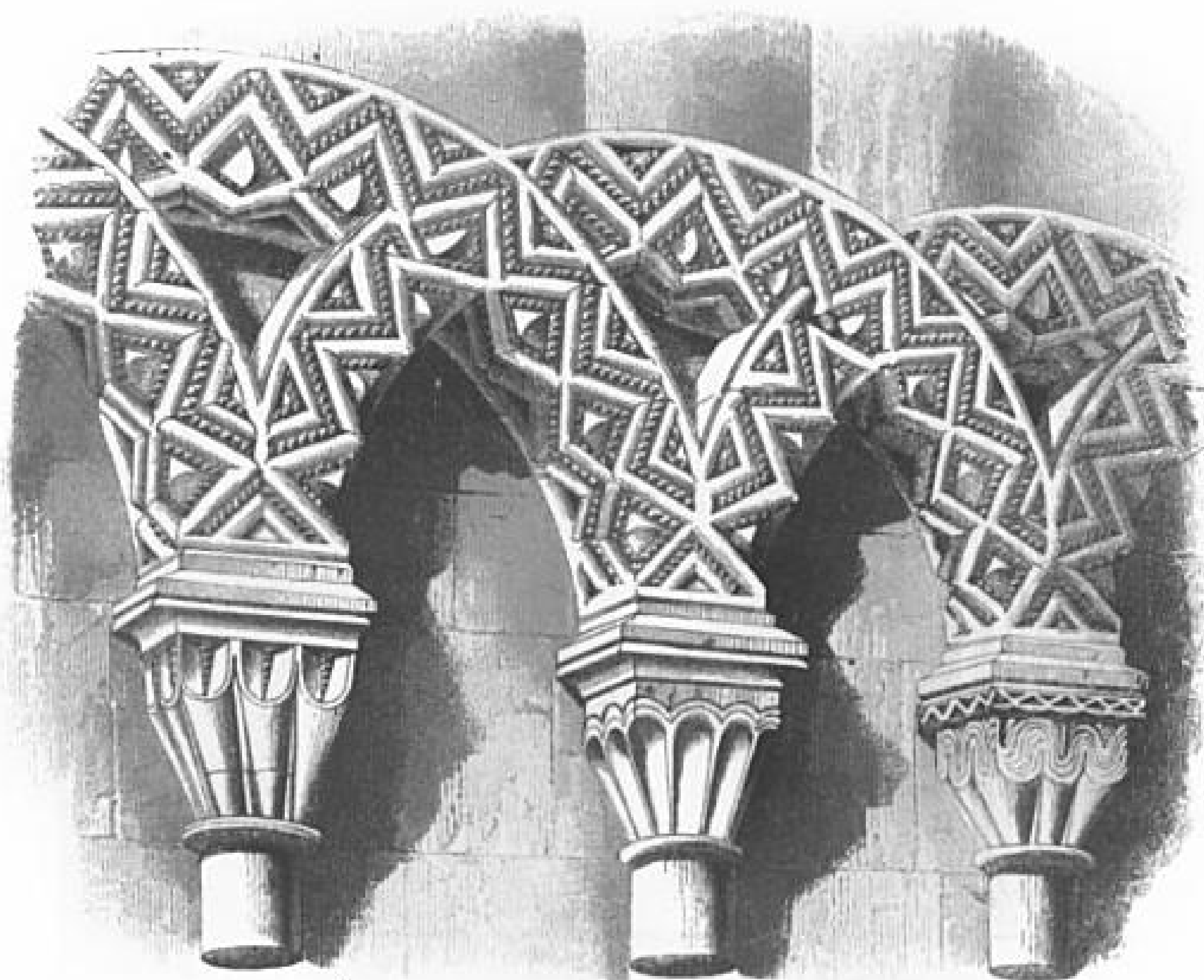
There is no trace of Tudor architecture in Scotland; neither the four-centred low arch nor fan-vaulting are to be found there, nor that peculiar class of perpendicular tracery which distinguished the 16th and 17th centuries in the South. At this period the Scotch still adhered to their flamboyant style, and such attempts as they did make at perpendicular work were so clumsy and so unconstructive that it is little wonder that, like the French, they soon abandoned it.

In so poor and thinly populated a country as Scotland was in the 11th century it would be in vain to look for any of the great ecclesiastical establishments that are found in the South. The churches seem at this age to have been cells or small chapels, such as that at Leuchars or Dalmeny, closely resembling St. Clement's church at Trondhjem, and a little larger than the contemporary edifices so frequently found in Ireland.

Leuchars is perhaps the most characteristic and beautiful specimen of its class, of which, like the contemporary chapel at Cashel, which it much resembles, it may be considered as the type. Its details are

not only rich, but, as may be seen from woodcut No. 716, bold and elegant at the same time. Both internally and externally the ornament is applied in so masterly a manner that the beauty of the art makes up for the smallness of dimensions, and renders it one of the most interesting churches in Scotland.

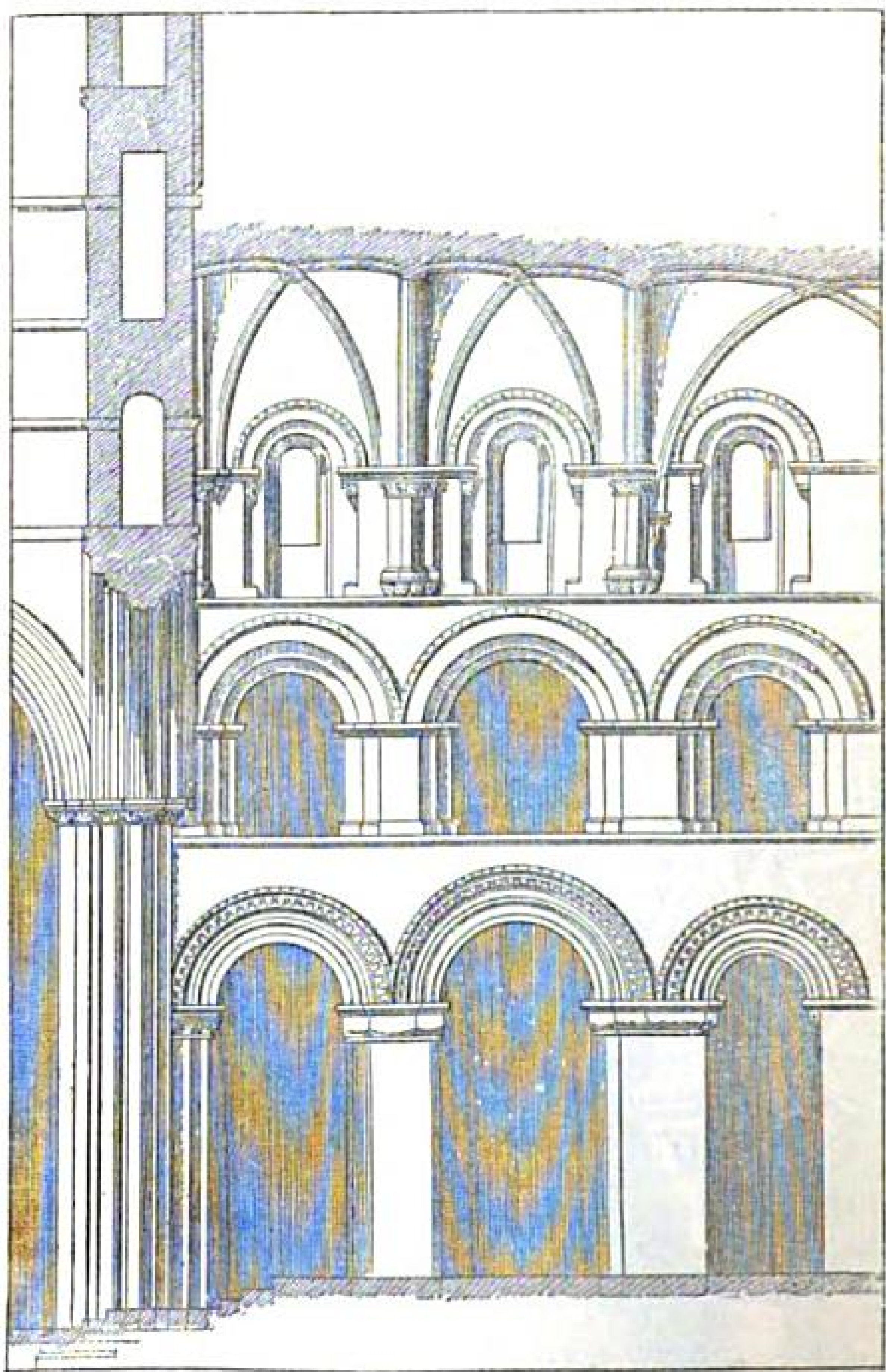
David I. (1124) seems to have been the first king who gave an impulse to the monastic establishments and to the building of larger churches. His endowment of the great border abbeys, and his general patronage of the monks, enabled them to undertake buildings on a greatly extended scale. The churches of Jedburgh and Kelso, as we now find them, belong either to the very end of the 12th or beginning of the 13th century. They display all the rude magnificence of the Norman period, used in this instance not experimentally, as was too often the case in England, but as a well-understood style, whose features were fully perfected. So far from striving after novelty, the Scotch architects were looking backwards, and culling the beauties of a long-established style. The great arch under the tower of Kelso is certainly a well-understood example of the architecture of the 13th century; while around it and above it nothing is to be seen but circular-headed openings, combined generally with the beaded shafts and foliage of the Early English period. The whole is used with a Doric simplicity and boldness which is very remarkable. Sometimes, it must be confessed, this independence of constraint is carried a little too far, as in the pier-arches at Jedburgh (woodcut No. 717), where they are thrown across between the circular pillars without any sub-



718. Arches in Kelso Abbey.

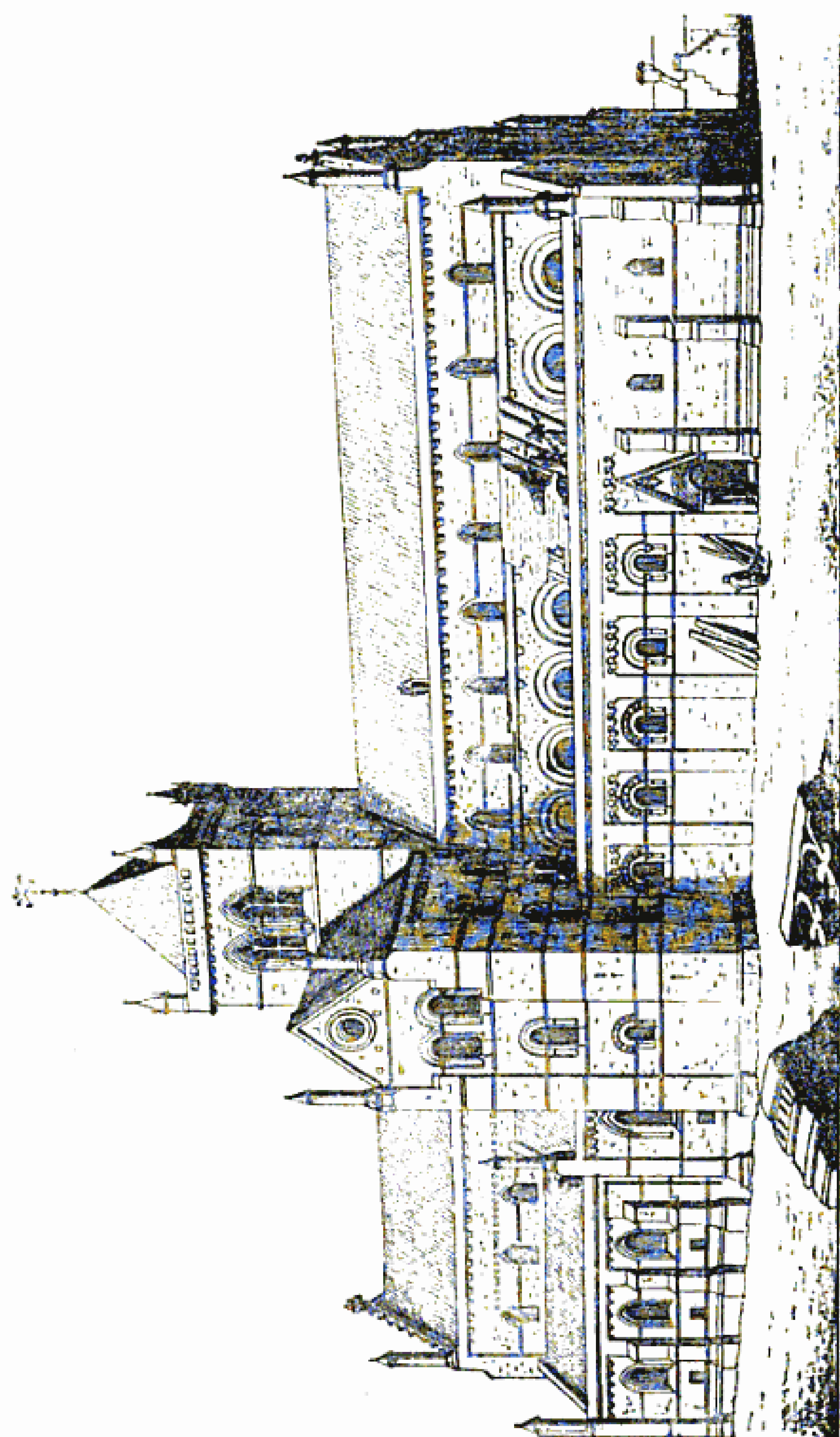
ordinate shaft or apparent support. This was a favourite trick of the later Gothic architects of Germany, though seldom found at this early period. Here the excessive strength of the arch in great measure redeems it.

Besides the general grandeur of these designs, a great deal of the detail of these abbeys is of the richest and best class of the age. The favourite form here, as at Leuchars, is that of circular arches intersecting one another so as to form pointed sub-arches, and these are generally ornamented with all the elaborate intricacy of the period, such as is shown in woodcut No. 718, taken from Kelso Abbey Church.



719. Three Bays of Cathedral at Kirkwall.

While these great abbeys were being erected in the southern extremity of the kingdom, the cathedral of St. Magnus was founded at the other extremity, at Kirkwall in the Orkneys. This building was commenced 1137, and carried on with vigour for some time. The



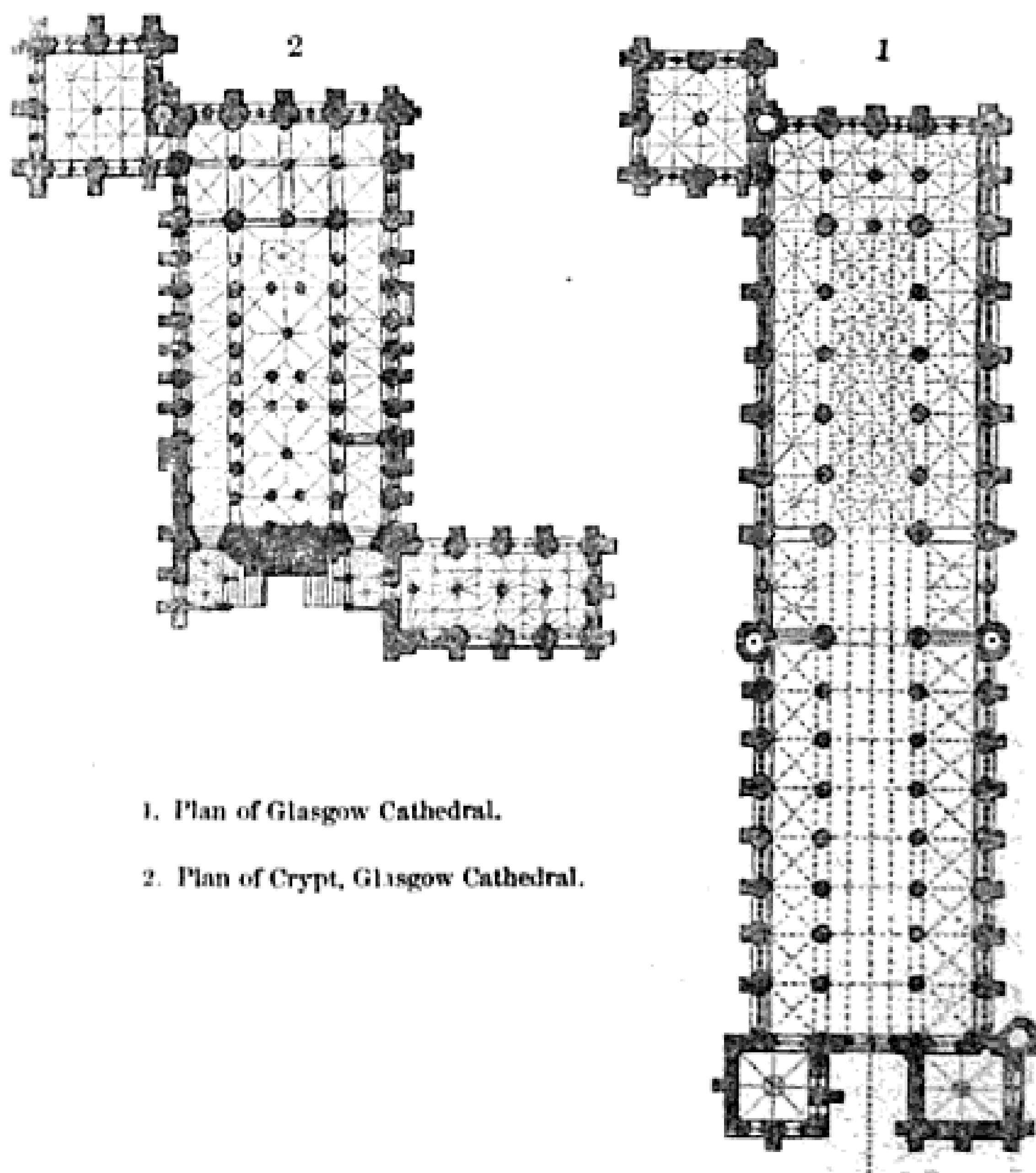
720. North side of the Cathedral at Kirkwall.

first three arches of the choir (woodcut No. 719) are all that can certainly be identified as belonging to that period. The arch of the tower belongs probably to the 14th century, and the vaulting can hardly be much earlier. The three arches beyond this are still cir-

cular, though with mouldings of a late period. It is said that these were not completed till the 16th century.

Farther south, arches of this late age could not have been built in such an ancient style, but we can believe that in this remote corner the old familiar modes were retained in spite of changing fashions; and the consequence is that, though the building of this cathedral was carried on at intervals during 400 years, it is at first sight singularly uniform in style, and has all the characteristics of an old Norman building, as may be seen from the woodcut.

The cathedral of Glasgow is almost the only other of the great ecclesiastical edifices of Scotland which retains its original features in a nearly perfect state. It is besides one of the most satisfactory and characteristic buildings to be found in the country.



1. Plan of Glasgow Cathedral.

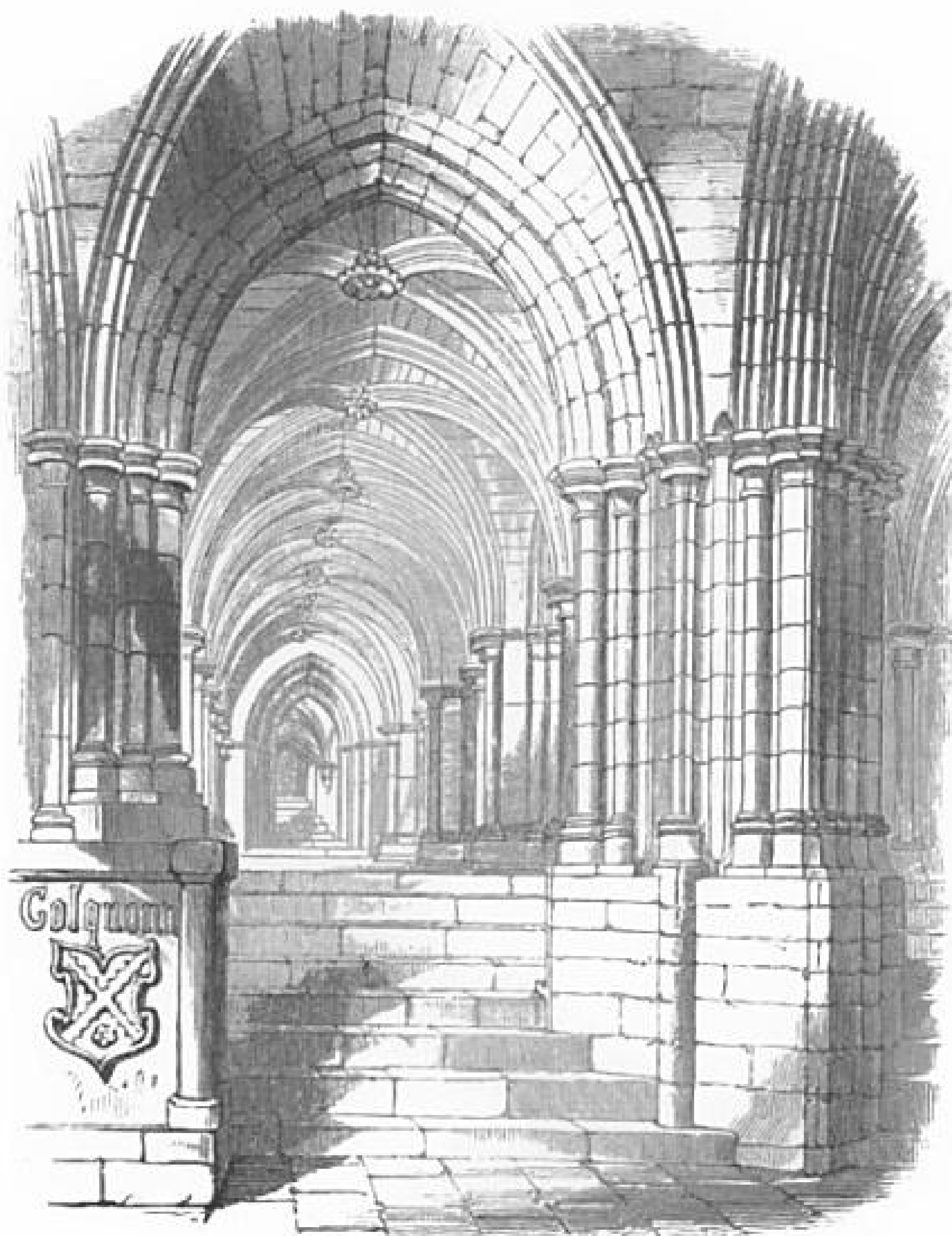
2. Plan of Crypt, Glasgow Cathedral.

721. From J. Collie's description of this Church.

The bishopric was founded by David I., but it was not till after several destructions by fire that the present building was commenced, probably about the year 1240. The crypt and the whole of the choir belong to the latter part of the 13th century, the nave to the 14th, the tower and spire to the 15th. The central aisle never having been intended to be vaulted, the architect has been enabled to dispense with all pinnacles, flying buttresses, and such expedients, and to give

to the whole outline a degree of solidity and repose which is extremely beautiful, and accords perfectly with the simple lancet openings which prevail throughout.

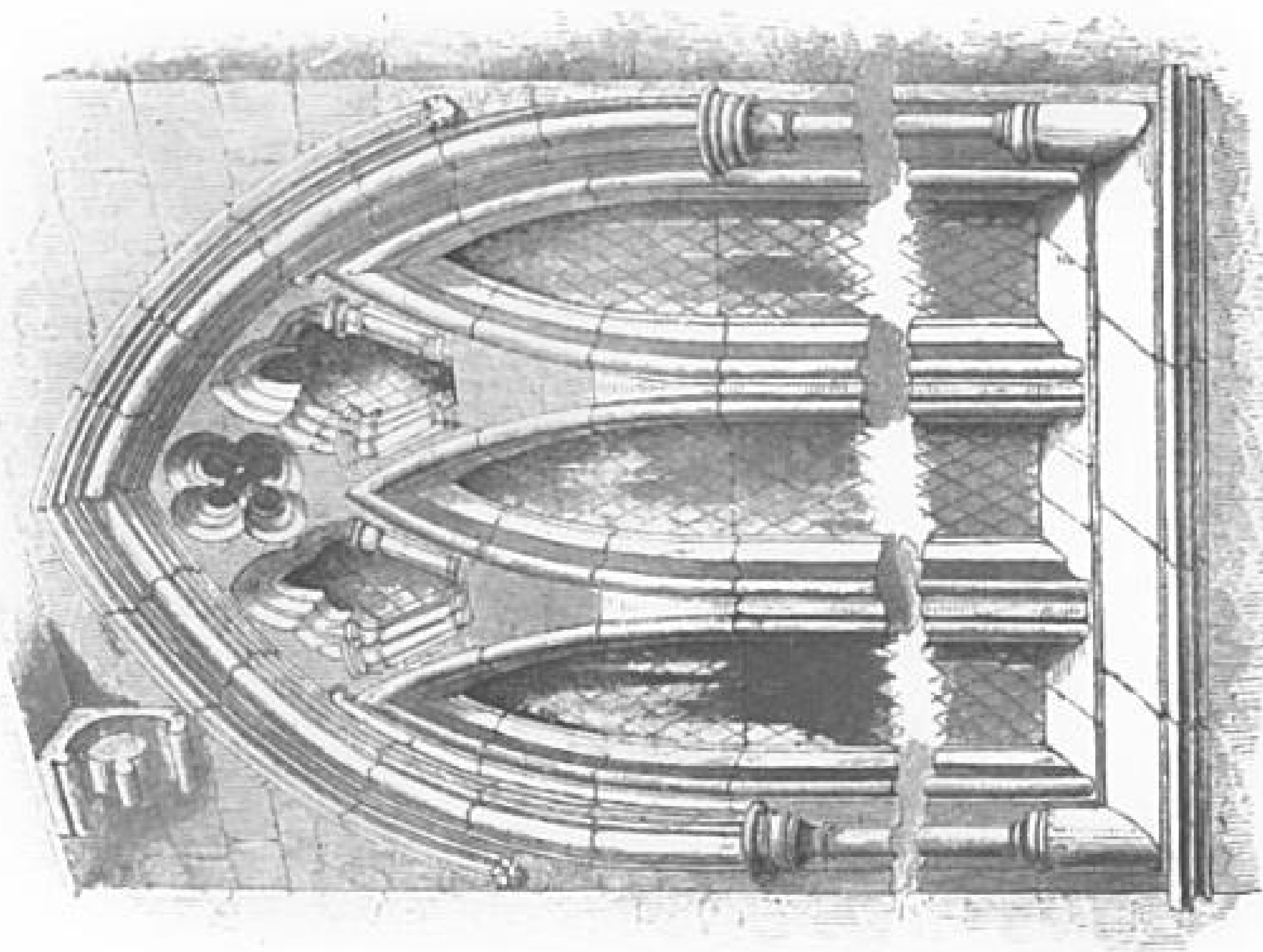
The whole length of the building externally, exclusive of the western towers, one of which has recently been pulled down, is 300 feet, the breadth 73, and the area is about 26,400 feet, so that it is far from being a large building; but its situation is so good, and all the proportions and design of the edifice so appropriate and satisfactory, that it is a more imposing building than many others of twice



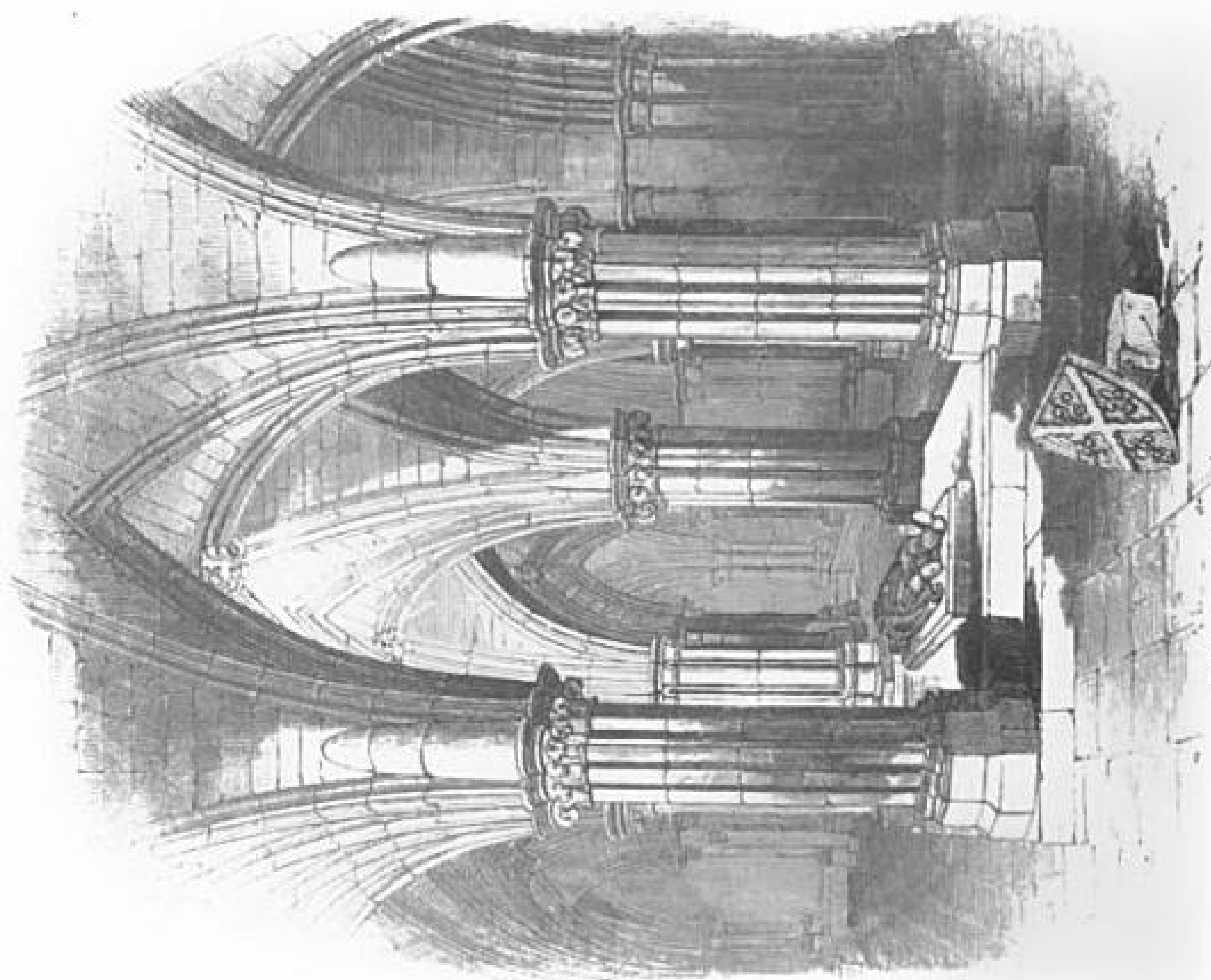
722. View in Crypt of Glasgow Cathedral. R. W. B. del.

its size. The spire, which is 219 feet in height from the floor of the church, is in perfect proportion to the rest of the building, both in dimension and outline, and aids very much the general effect of the whole.

The glory of this cathedral is its crypt, which is unrivalled in Britain, and indeed perhaps in Europe. As already remarked, the English crypts were built during the Norman period, or very early



724. Clerestory Window, Glasgow Cathedral. R. W. B. del.



723. Crypt of Cathedral at Glasgow. R. W. B. del.

in the age of the pointed style. That at Glasgow belongs to the perfected style of the 13th century, and as the ground falls rapidly towards the west, the architect was enabled to give it all the height required, and to light it with perfect ease. Here the crypt actually extends under and beyond the whole choir. Had there been an opening in the centre of the vault (and it is by no means clear that one was not originally intended), it would be more like a German

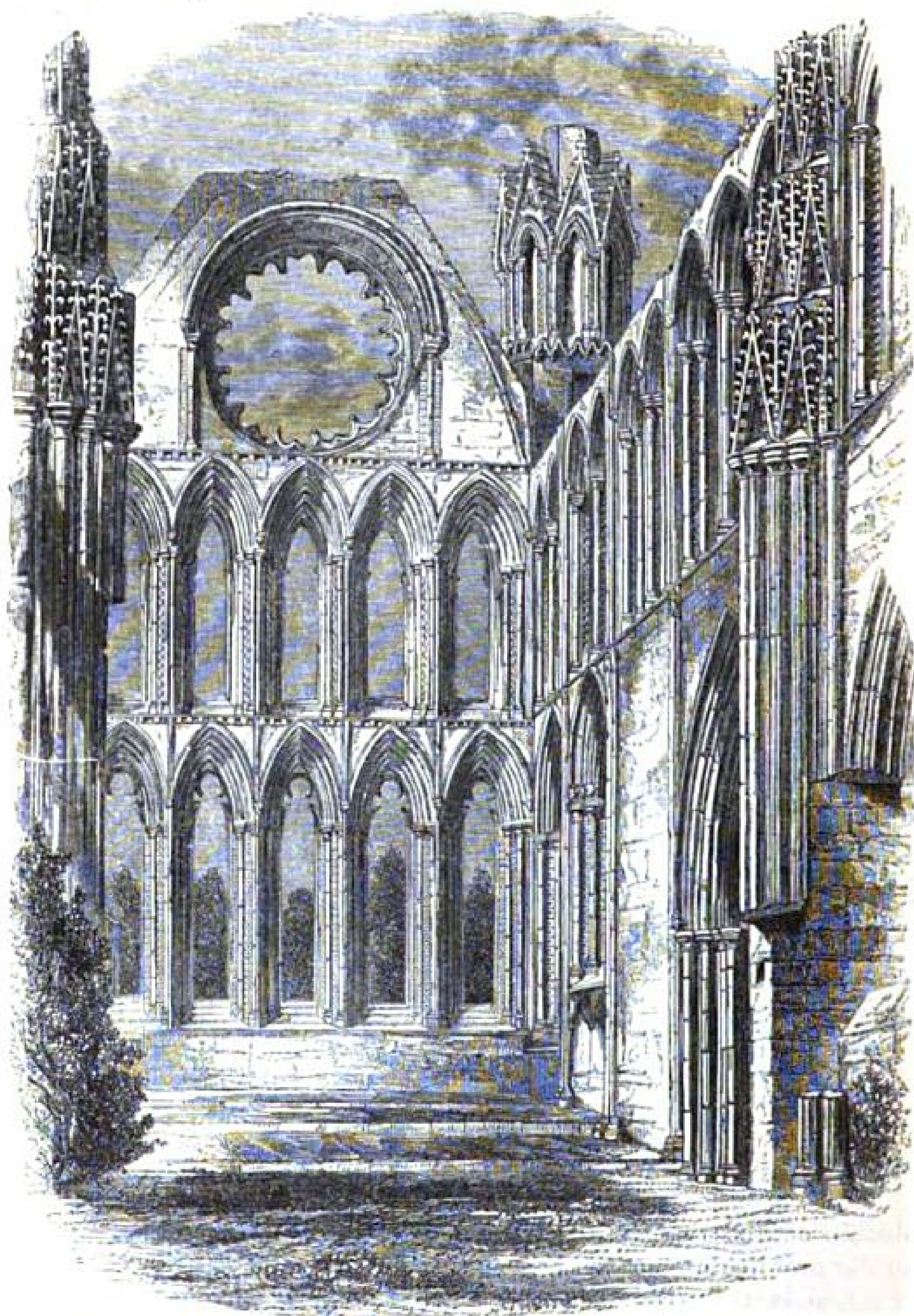


725. East End of Glasgow Cathedral. R. W. B. del.

double church than anything found in England. There is a solidity in its architecture, a richness in its vaulting, and a variety of perspective in the spacing of its pillars, which make it one of the most perfect pieces of architecture in these islands.

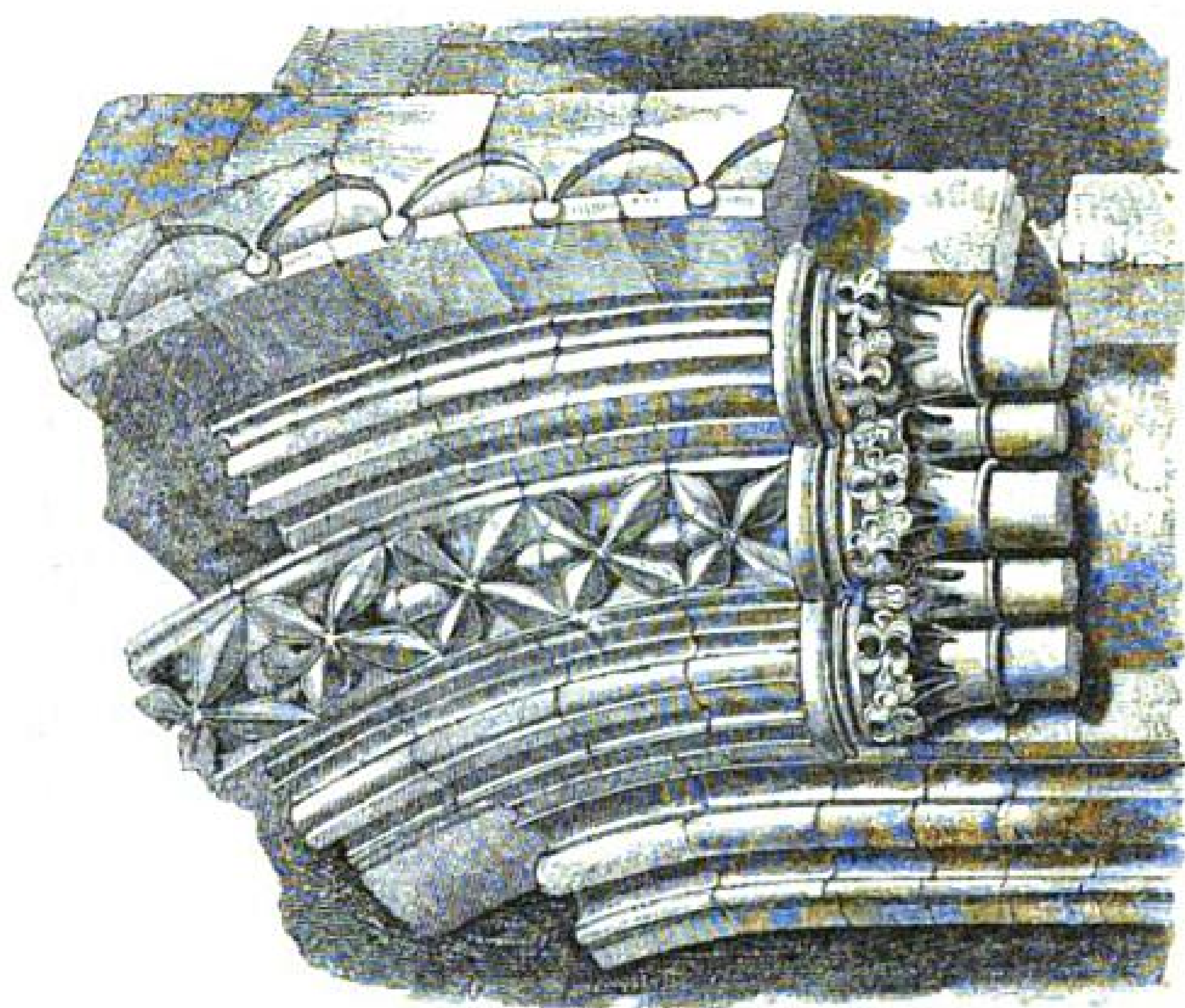
In the crypt and lower part the windows are generally single or double lancet, united by an arch. In the clerestory they sometimes take the form of three lancets, united, as shown in woodcut No. 724, by an imperfect class of tracery, more in accordance with the sim-

plicity of the building than the more complex form prevalent in England at the same period, though in the south transept and some of the later additions there is tracery of considerable elaboration and beauty of design.

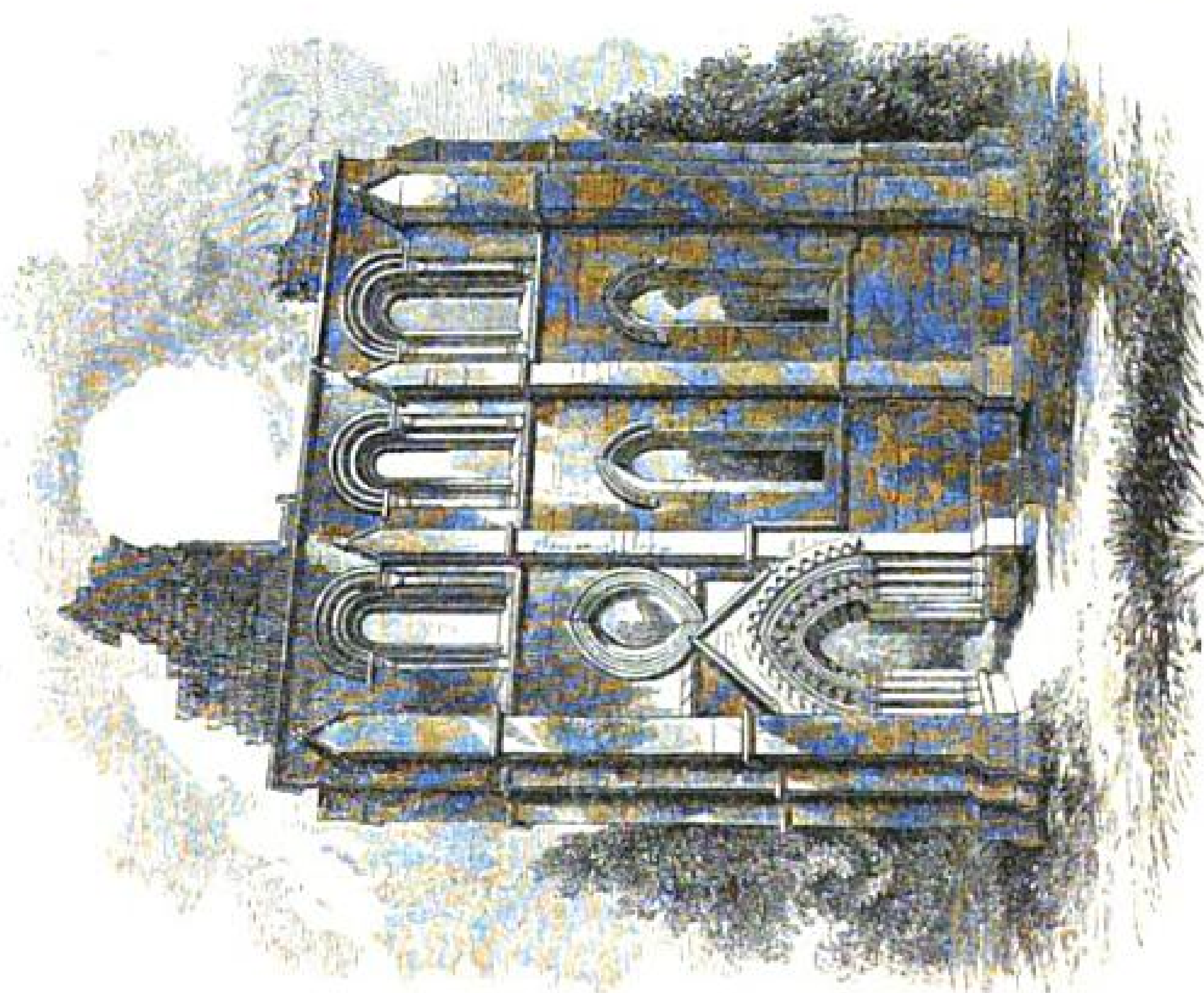


726. East End, Elgin Cathedral. R. W. B. del.

The most beautiful building in Scotland is or was the cathedral of Elgin. Its situation in the province of Moray was so remote that it seems to have been comparatively undisturbed by the English wars,

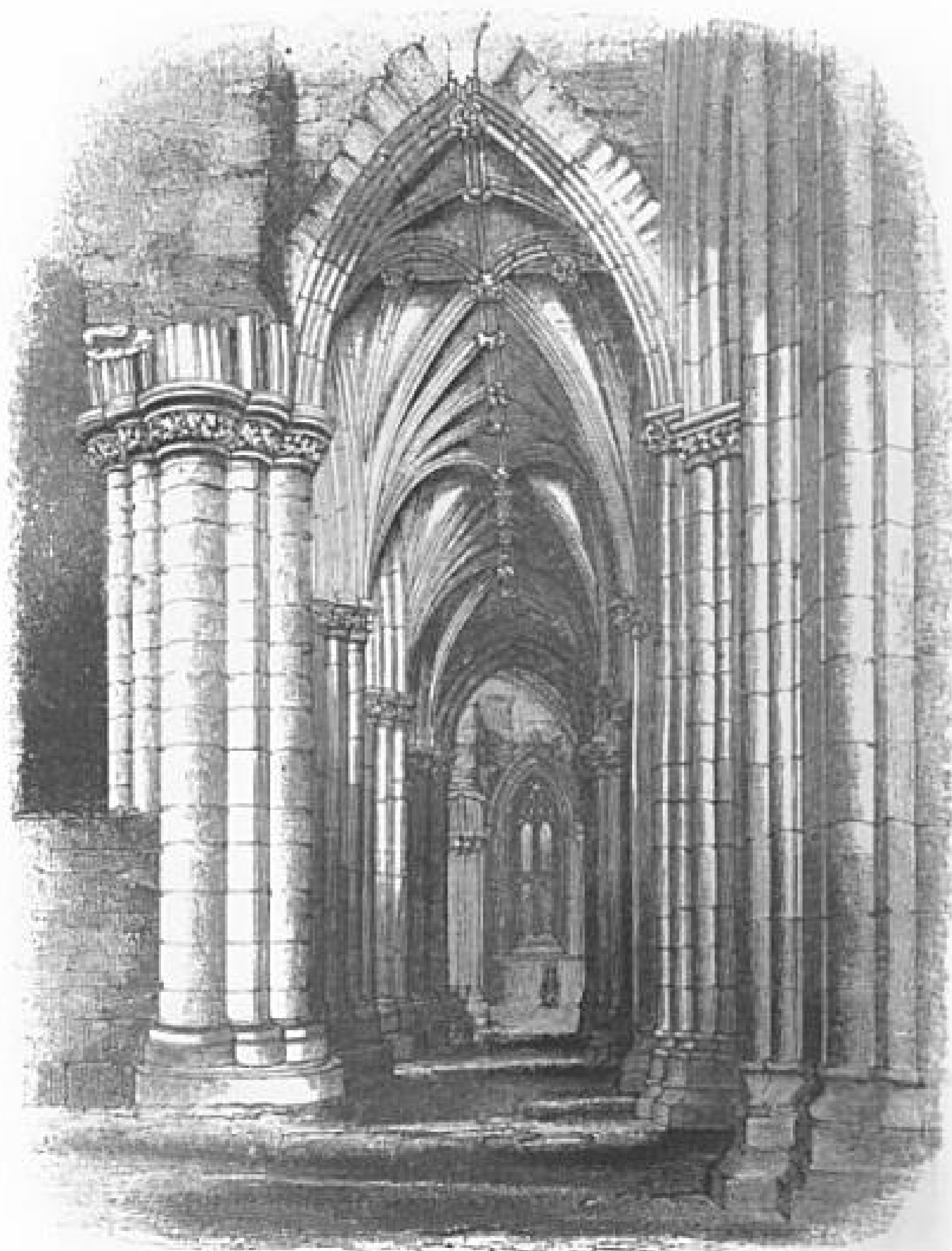


728. Ornament of Doorway, Elgin. R. W. B. del.



727. South Transept, Elgin Cathedral. R. W. B. del.

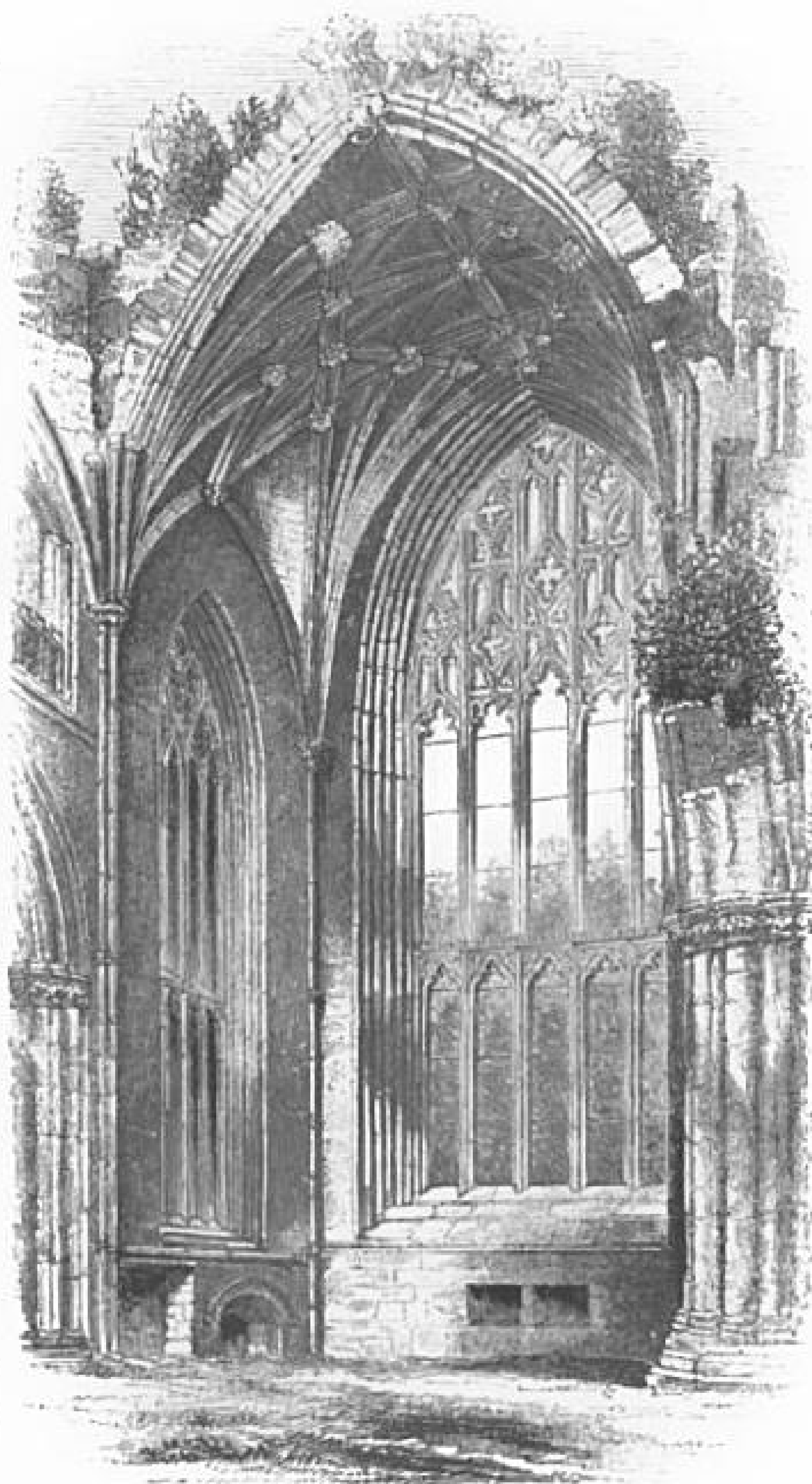
and the greater part of the building was erected during the Edwardian period, with all the beautiful details of that age. The seat of the see was removed from Spynie to Elgin in the year 1223, and the cathedral commenced contemporaneously with those of Amiens and Salisbury. All that now remains of this period is the fragment of the south transept (woodcut No. 727), where we see the round arch reappearing over the pointed, at a period when its use was entirely discontinued in the south. At the same time the details of the doorway (woodcut No. 728) show that in other respects the style was at that period as far advanced as in England. The cathedral was burnt down in 1270, and again partially in 1390. The choir and other parts which still remain were built subsequently to the first conflagration, and escaped the second. These parts appear at first sight to belong to the lancet style of the previous century, but used with the details and tracery of the Edwardian period, and with a degree of beauty hardly surpassed anywhere. As may be seen from the woodcut, the choir is terminated by what is virtually a great east window, but with piers between the compartments instead of mullions. As an architectural object this is a far more stable and appropriate design than a great mullioned win-



729. Aisle in Melrose Abbey. R. W. B. del.

dow like that of York and others in England. But those must be judged of as frames for glass pictures, which this is by no means so well suited to display. Its details, however, are exquisite, and the whole design very rich and beautiful.

The north and south aisles of the nave and the chapter-house were rebuilt after the last destruction, and belong to the 15th century. These parts, though very beautiful, display generally the faults of the Scotch flamboyant style, showing a certain amount of heaviness and clumsiness mixed with the flowing and unconstructive lines of this class of tracery, which nothing can redeem but the grace and elegance with which the French always used it.



730. East Window, Melrose. R. W. B. del.

Next in beauty to this building is the well-known abbey at Melrose. This, though founded contemporaneously with Jedburgh and Kelso, was entirely rebuilt during the Lancastrian period, and, owing to its situation near the border, shows much more affinity to the English style than the building last described. The nave, as shown by the view of its aisle (woodcut No. 729), is of a bold, solid style of architecture, with a vault of considerable richness. The window of the south transept is the most elegant specimen of flowing tracery to be found in Scotland, and its great east window, as before remarked, is almost the only example of the perpendicular style in the North, and is equal to anything of the kind on this side of the Tweed.

Few of the architectural antiquities of Scotland are so well known.

or have been so much admired, as the chapel at Roslyn, which William St. Clair caused to be erected in the year 1446. For this purpose he did not employ his countrymen, but "brought artificers from other regions and forraigne kingdomes," and employed them to erect a building very unlike anything else to be found in Great Britain.



731. Chapel at Roslyn. R. W. B. del.

From the knowledge we now have of styles, there can be little doubt that his architects came from the north of Spain. In fact, there is no detail or ornament in the whole building which may not be traced back to Burgos or Oviedo; though there is a certain clumsiness both in the carving and construction that betrays the workmanship of persons but little familiar with the task they were employed upon. The chapel is small, only 68 ft. by 35, internally. The central aisle is only 15 ft. wide, and has the southern peculiarity of a tunnel-vault with only transverse ribs such as those found at Fontifroide (woodcut No. 477), and in almost all the old churches of the south of France. At Roslyn, between these, the ornaments, which were painted in the earlier examples, are carved in relief. The vault, as in the south, is a true roof, the covering slabs being laid directly on the extrados or outside of the vault, without the intervention of any wood, a circumstance to which the chapel owes its preservation to the present day. Beyond the upper chapel is a sub-chapel (woodcut No. 732), displaying the same mode of vaulting in a simpler form, but equally foreign and unlike the usual form of vaults in Scotland.

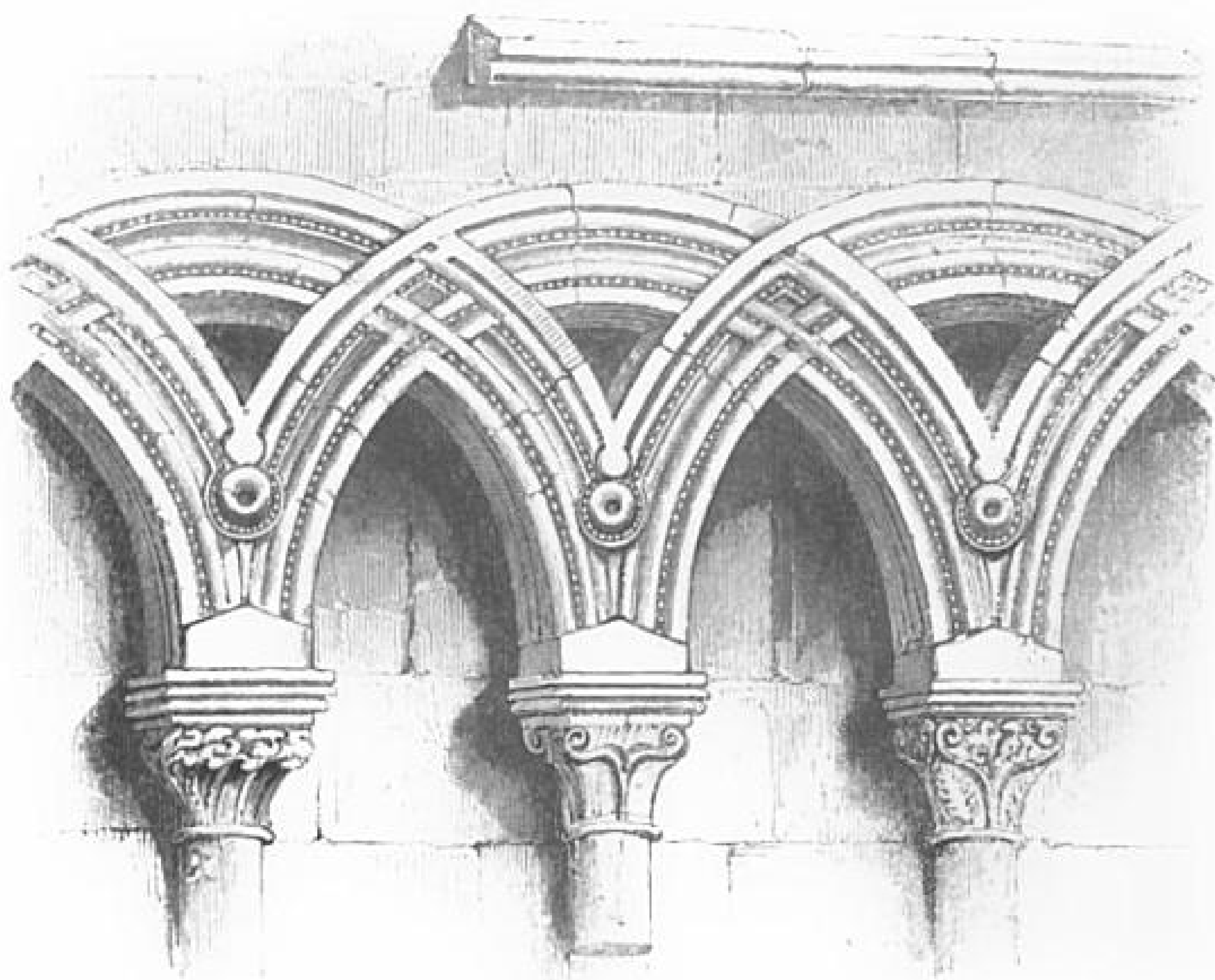


732. Under Chapel, Roslyn. R. W. B. del.

The chapel attached to the palace at Holyrood is of a very different character from this; infinitely more beautiful, though not nearly so curious. The building was originally founded by David I. in 1128, but what now remains belongs to the latter end of the 13th or beginning of the 14th century, having all the elegance of the Edwardian style joined to a massiveness which in England would be indicative of a far earlier period. Some of its details (as that shown, woodcut No. 733) are of a beautiful transitional character, though not so early as might be suspected, and others (like woodcut No. 734) have the rich but foreign aspect that generally characterises the architecture of Scotland.

The nave of the cathedral of Aberdeen is still sufficiently entire to be used as a church, and with its twin western spires of bold castellated design is an impressive building, but has a character of over-heaviness arising from the material used being granite, which did not admit of any of the lighter graces of Gothic art.

The cathedral of St. Andrew's must at one time have been one of the most beautiful in Scotland, but fragments only of its east and west ends now remain. They suffice to show that it was of considerable



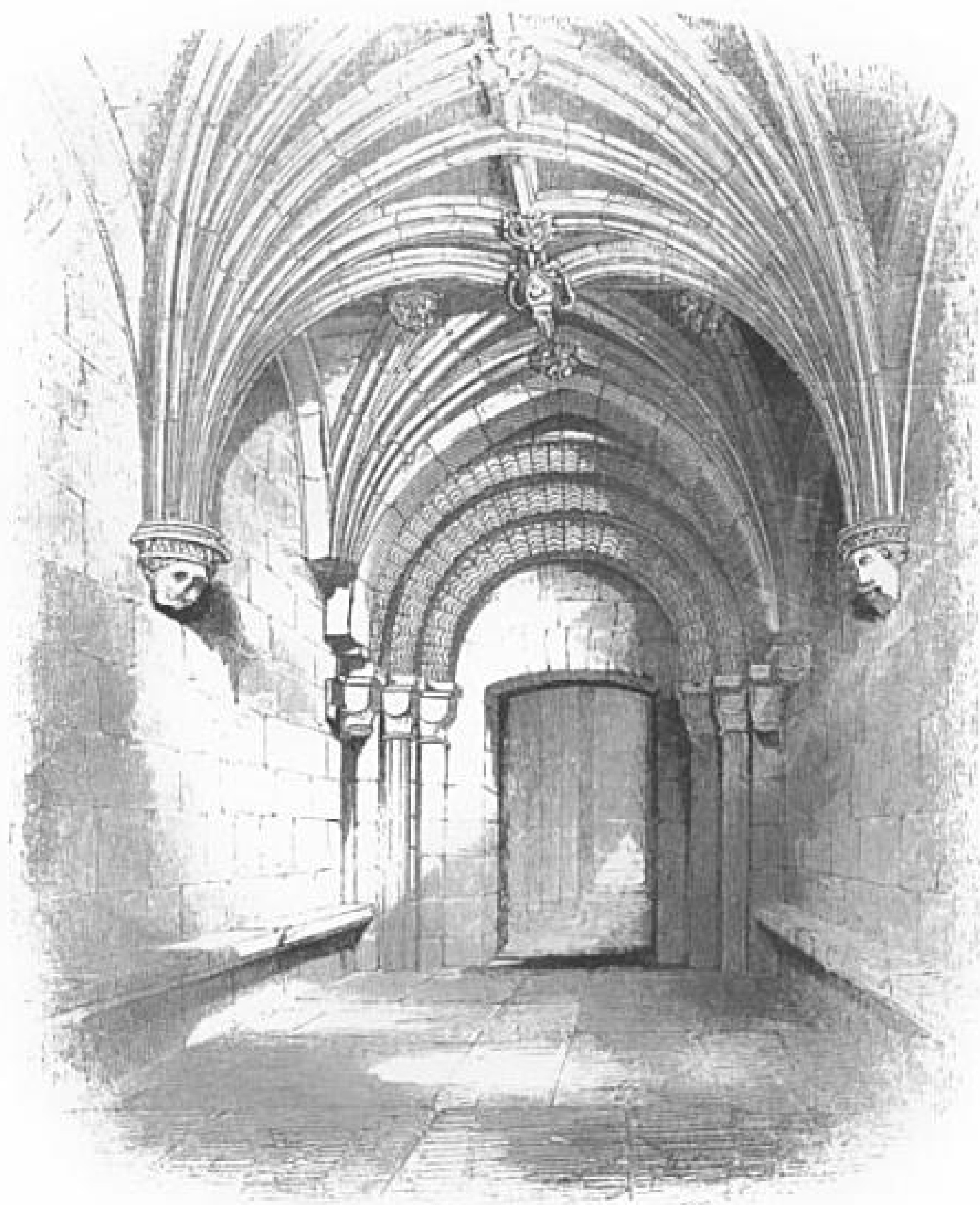
733. Ornament from Holyrood. R. W. B. del.



734. Ornament from Holyrood. R. W. B. del.

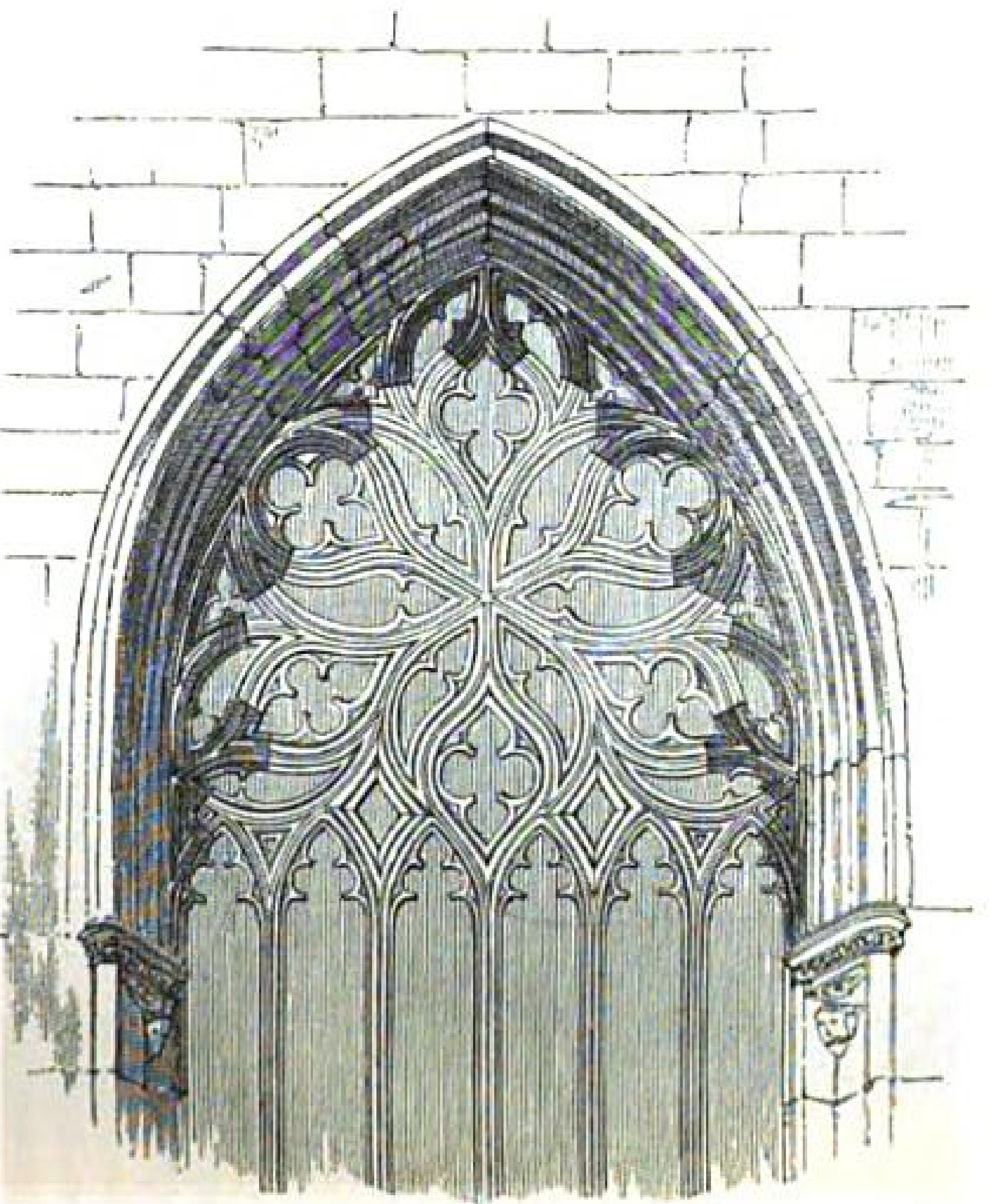
dimensions, and inferior, perhaps, only to Elgin and Melrose in beauty of detail.

Besides these there are in this country many ruined monastic establishments, all having more or less beauty of design or detail. One of the most remarkable of these is Dunfermline, whose nave is of a bold, round-arched style, very like what Durham cathedral would have been had it been intended for a wooden roof, as this was. The other parts display that intermixture of styles so usual in monastic buildings; bold billeted arches, as in woodcut No. 735, being surmounted by

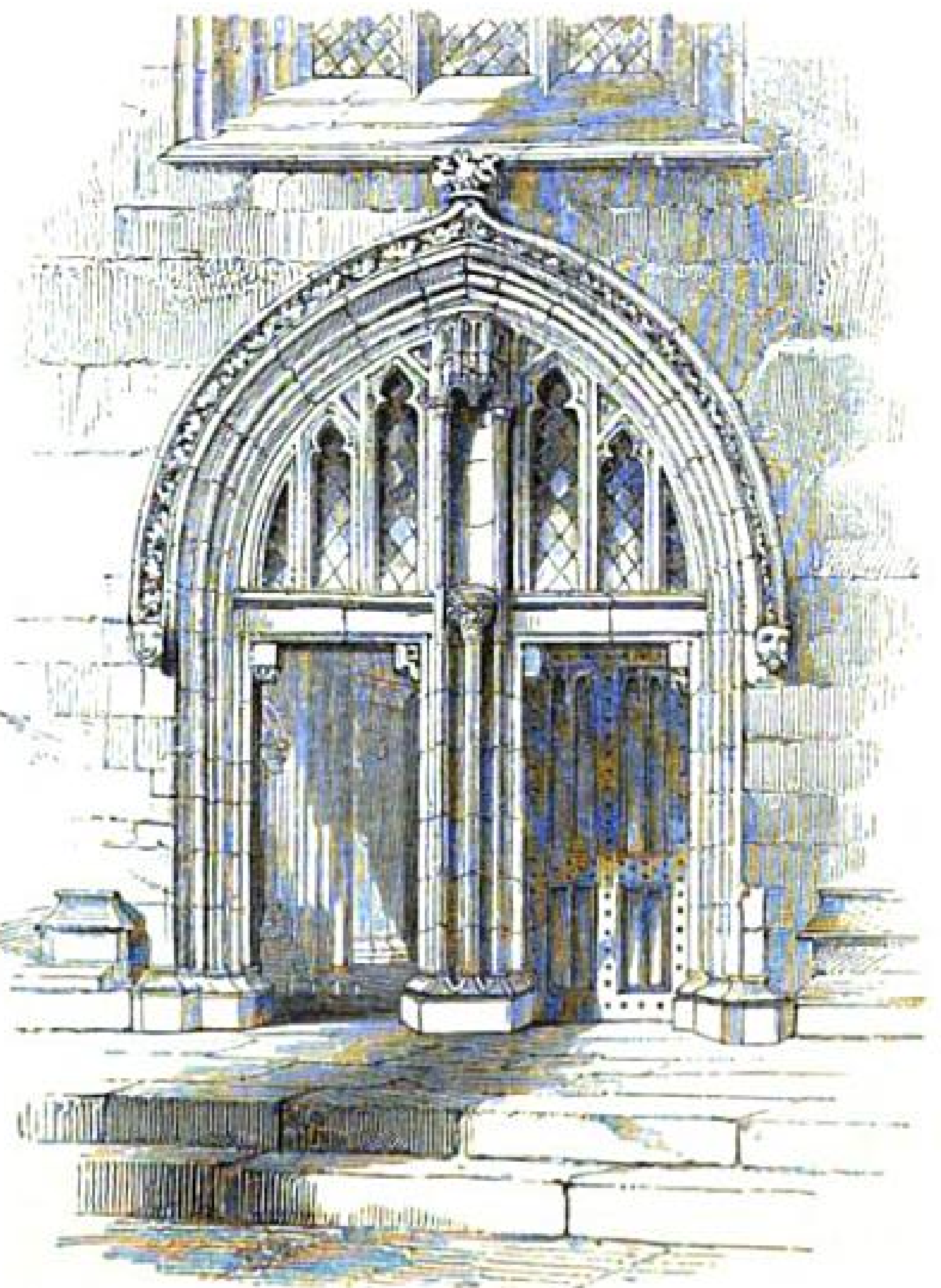


735. Interior of Porch, Dunfermline. R. W. B. del.

vaults of a far later age. But Scotch vaulting was in general so massive and rich that it requires the eye of an archæologist to detect a difference that is never offensive to the true artist. Among the remaining specimens are Dumblane, Aberbrothock, and Dunkeld, a window of which (woodcut No. 736) is a fine specimen of the Scotch flamboyant, and is identical in design with one still existing in Linlithgow parish church, and very similar to many found elsewhere. The west doorway in the last-named church is a pleasing specimen of



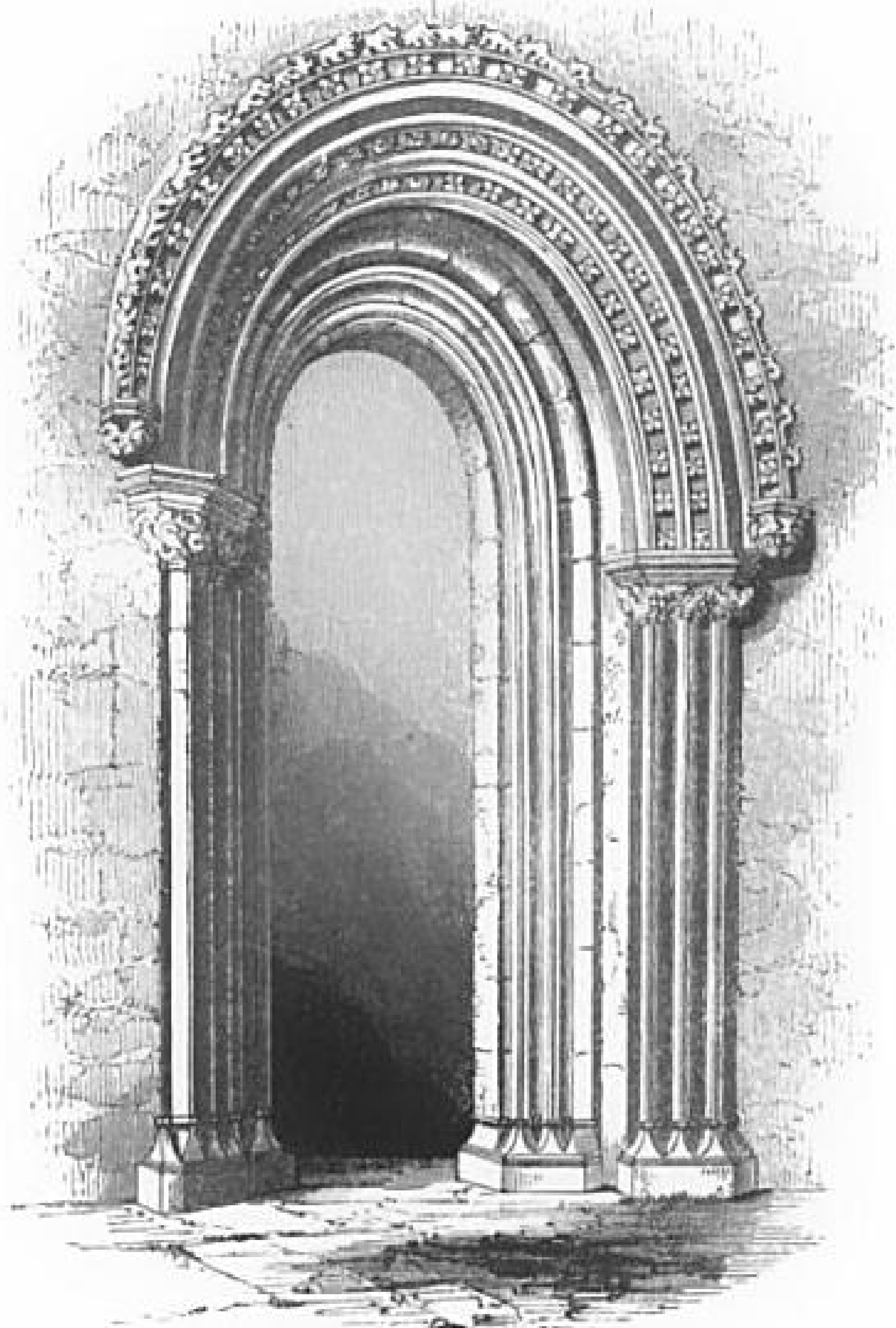
736. Window at Dunkeld "restored." R. W. B. del.



737. Doorway, Linlithgow. R. W. B. del.

the half Continental[1] manner in which that feature was usually treated in Scotland.

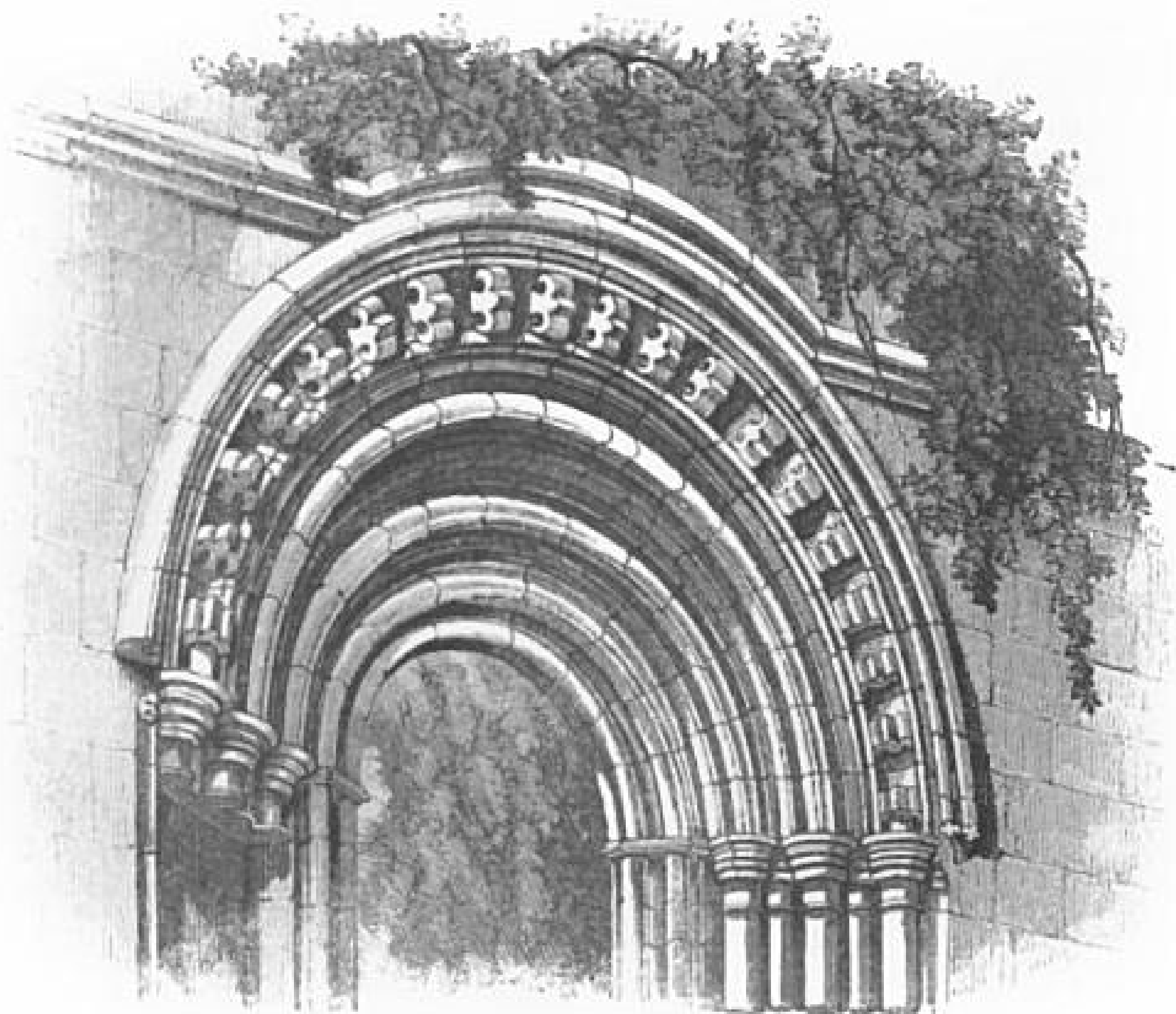
It has already been hinted that the Scotch unwillingly abandoned the use of the circular archway, especially as a decorative feature, and indeed retain it occasionally throughout the whole of the middle ages, though with the details of the period. The doorway illustrated in woodcut No. 738, from St. Giles's, Edinburgh, is a fine specimen of this



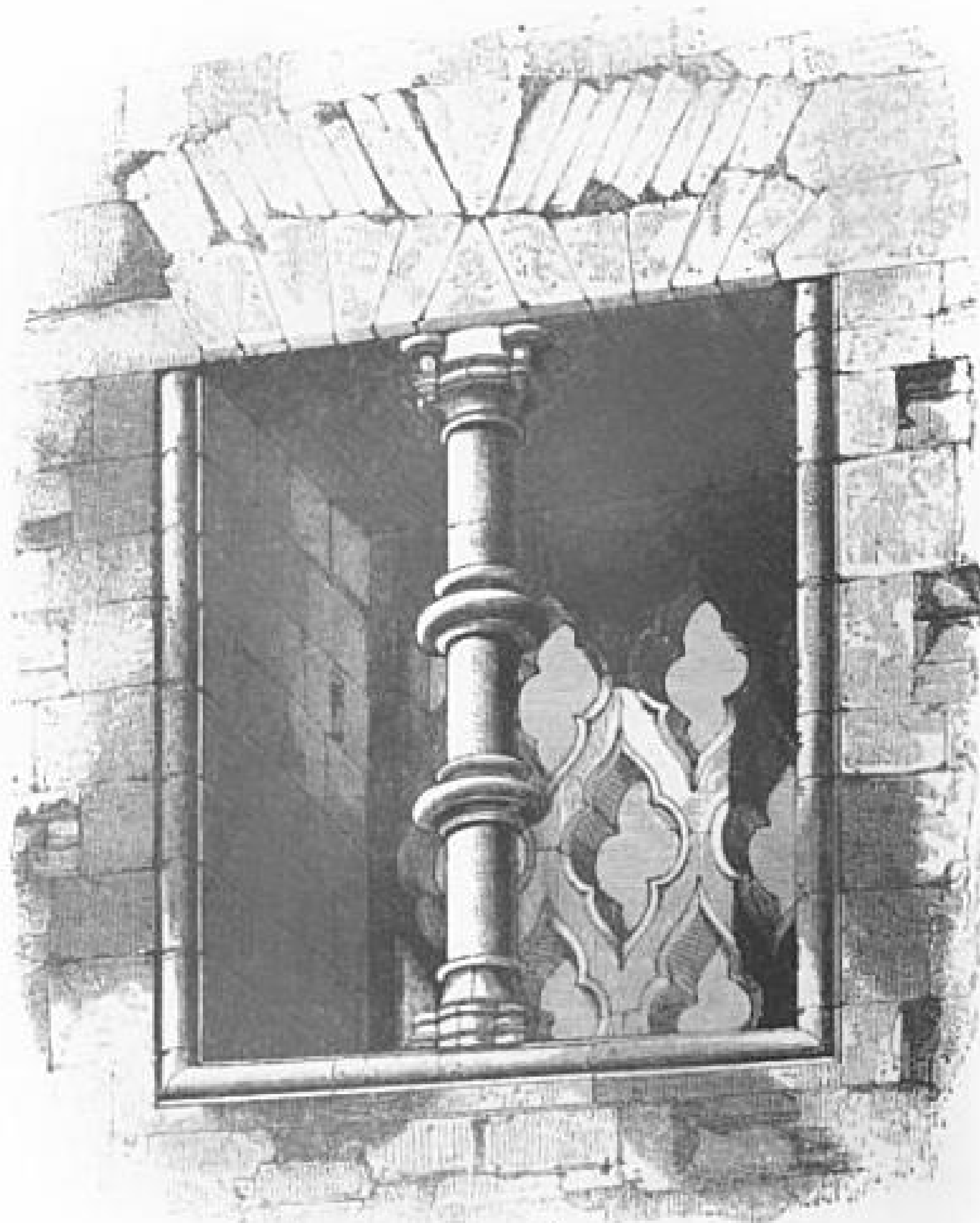
738. Doorway, St. Giles's, Edinburgh. R. W. B. del.

mode of treatment, and so is the next illustration from Pluscardine Abbey. Similar doorways occur at Melrose and elsewhere. For canopies of tombs and such like purposes the circular arch may almost be said to be as common as the pointed. Other examples are found at Iona, though there the buildings are almost as exceptional and as Continental in design as Roslyn itself, the circular pier-arch is used with the mouldings of the 13th century, and the pointed arch is placed

[1] The same class of tracery is found in the Lamberti Kirche at Munster, and generally in Westphalia; some specimens being almost absolutely identical with the Scotch examples.



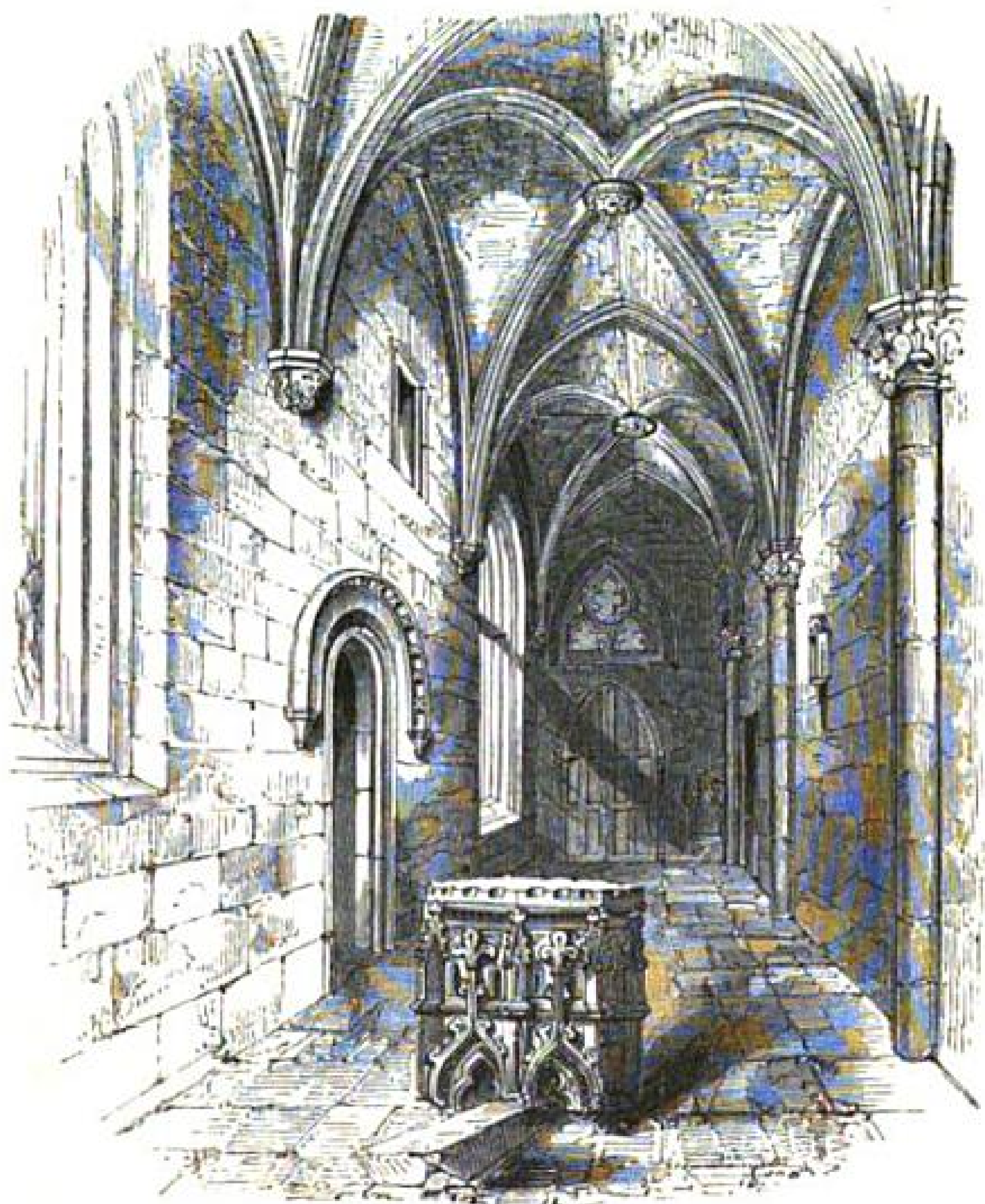
739. Doorway, Pluscardine Abbey. R. W. B. del.



740. Window in Tower, Iona. R. W. B. del.

on a capital of intertwined dragons, more worthy of a Runic cross or tomb-stone than a Gothic edifice. The tower windows are filled with quatrefoil tracery, in a manner very unusual, and a mode of construction is adopted such as does not perhaps exist anywhere else in Britain. The whole group, in fact, is as exceptional as its situation, and as remote from the usual modes of architecture on the mainland.

As already mentioned, the early Scotch vaults were singularly bold and massive, and all their mouldings were characterised by strength and vigour, as shown in the examples taken from Glasgow and Dunfermline (woodcuts Nos. 723 and 735). At a later period, however, when the English were using perpendicular tracery, and when the invention of fan-vaulting was beginning to be introduced, the Scotch, with the flamboyant tracery of the French, adopted also their weak and unconstructive modes of vaulting. It is common to find so poor a vault as that of Trinity College Church, Edinburgh, erected contemporaneously with the elaborate vaulting of the royal chapels in England; and not only in this but in every other respect it is to the Continent that we must look for analogies with the architecture of the Scotch, and not to their nearest neighbours.



741. Aisle in Trinity Church, Edinburgh.

Scotland is, generally speaking, very deficient in objects of civil or domestic architecture belonging to the middle ages. Of her palaces, Holyrood has been almost rebuilt in the reign of Charles I., and Edinburgh castle entirely remodelled. Stirling still retains some fragments of ancient art, and Falkland seems on the verge of the Renaissance. Linlithgow perhaps alone remains in its original state, and is a fine specimen of a fortified palace, with bold flanking towers externally and a noble court-yard in the centre.

There are, besides these, numberless square towers and fortalices scattered over the country, which were the residences of the turbulent barons of Scotland during the middle ages, but none of these can properly be called objects of architecture.

The baronial edifices of the succeeding age give the impression of belonging to an earlier style, retained in this wild country long after it had been laid aside elsewhere. They are as remarkable as any class of buildings erected after the middle ages, both for originality and picturesqueness. But they were, with scarcely an exception, built after the accession of Elizabeth to the throne of England; consequently their age, together with certain features belonging to the style of the Renaissance, excludes them from the subject of Scotch Gothic architecture.

CHAPTER IV.

IRELAND.

CONTENTS.

At no period of their history were the people of Ireland either so settled or so prosperous as to be enabled to undertake the erection of any great ecclesiastical buildings such as are found everywhere in Great Britain, from Kirkwall to Cornwall.

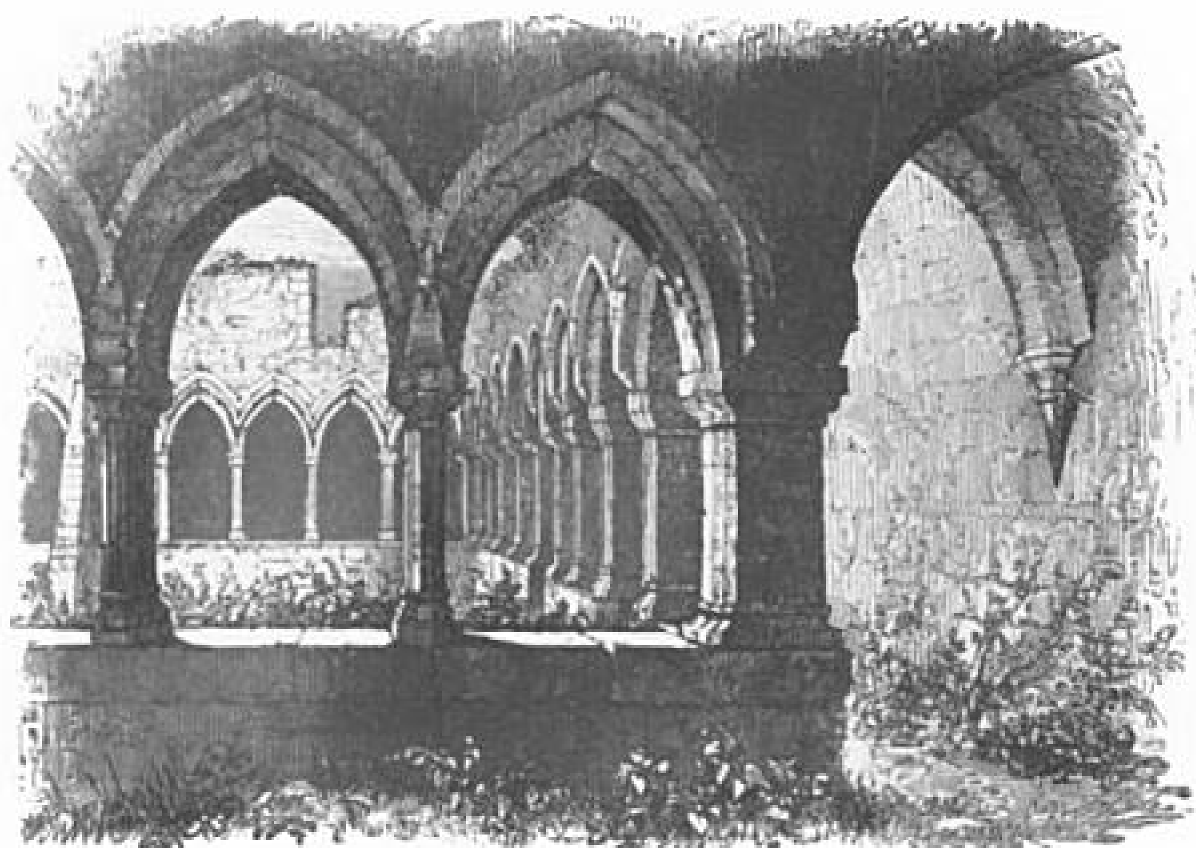
The cathedral of Dublin must always have been a second class edifice for a metropolitan church, and those of Cashel and Kildare, which are as celebrated and as important as any in Ireland, are neither so large nor so richly ornamented as many English parish churches. The cathedral of Lismore has entirely disappeared; and generally it may be asserted that throughout the country there is not one church remarkable for its architectural beauty or magnificence, though many are interesting from their associations, and picturesque from the state of ivy-clad ruin in which they appear.

The same is true with regard to the monasteries—they are few, and generally small, though rich in detail. One of the most elaborate is that of the Holy Cross near Cashel, erected in the 15th century. This, like every other building of the Gothic period in Ireland, shows a strong affinity to the styles of the Continent, and a clearly marked difference from those of this country.

Some of the monasteries still retain their cloisters, which in all instances have so foreign an aspect as to be quite startling. That at Muckross (Killarney) retains the round arch on two sides with the details of the 15th century. That at Kilconnel (woodcut No. 742)[1] looks more like a cloister in Sicily or Spain than anything in these islands. None of them seem large. The last-named is only 48 ft. square, though if it were more extensive it would be out of place compared with the rest of the establishment.

Altogether the Gothic antiquities of Ireland do not deserve much notice in a work not specially devoted to that one subject; but besides these Ireland possesses what may properly be called a Celtic style of architecture, which is as interesting in itself as any of the minor local styles of any part of the world, and so far as at present known, is quite

[1] The woodcuts in this chapter are, with one exception, borrowed from Wilkinson's 'Ancient Architecture and Geology of Ireland.'



742. Cloister, Kilconnel Abbey.

peculiar to the island. None of the buildings of this style are large, though the ornaments on many of them are of great beauty and elegance. Their chief interest lies in their singularly local character, and in their age, which probably extends from the 5th or 6th century to the time of the English conquest in 1176. They consist principally of churches and round towers, together with a number of other antiquities hardly coming within the scope of this work.

No Irish church of this period now remaining is perhaps even 60 ft. in length, and generally they are very much smaller, the most common dimensions being from 20 to 40 ft. Increase of magnificence was sought to be attained more by extending the number than by augmenting the size. The favourite number for a complete ecclesiastical establishment was 7, as in Greece, this number being identical with that of the 7 Apocalyptic churches of Asia. Thus, there are 7 at Glendalough, 7 at Cashel, and the same sacred number is found in several other places,[1] and generally two or three at least are found grouped together.

No church is known to have existed in Ireland before the Norman conquest that can be called a basilica, none of them being divided into aisles either by stone or wooden pillars, or possessing an apse, and no circular church has yet been found: nothing, in short, that would lead us to believe that Ireland obtained her architecture direct from Rome, while everything, on the contrary, tends to confirm the belief of an intimate connexion with the farther East, and that her earlier Christianity and religious forms were derived from Greece by some of the more southerly commercial routes which at that period seem to have abutted on Ireland.

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[1] Seven churches are also found at Scattery and Innis Caltra in Clare, Tory Island Donegal, Rattoo in Kerry, Inchclorin, Longford, and Arranmore in Galway.

Both in Greece and in Ireland the smallness of the churches is remarkable. They never were in fact basilicas for the assembly of large congregations of worshippers, but oratories, where the priest could celebrate the divine mysteries for the benefit of the laity. It is not only at Mount Athos and other places in Europe, but also in Asia Minor, that we find the method of grouping a large number of small churches together, seven being always the favourite number, and one very often attained.[1]

The Irish Celtic churches are generally rectangular apartments, a little longer than they are broad, like the small one on the island of Innisfallen on the lake of Killarney (woodcut No. 743). To the larger churches a smaller apartment of the same proportions is added to the eastward, forming a chancel, with an ornamental arch between them.

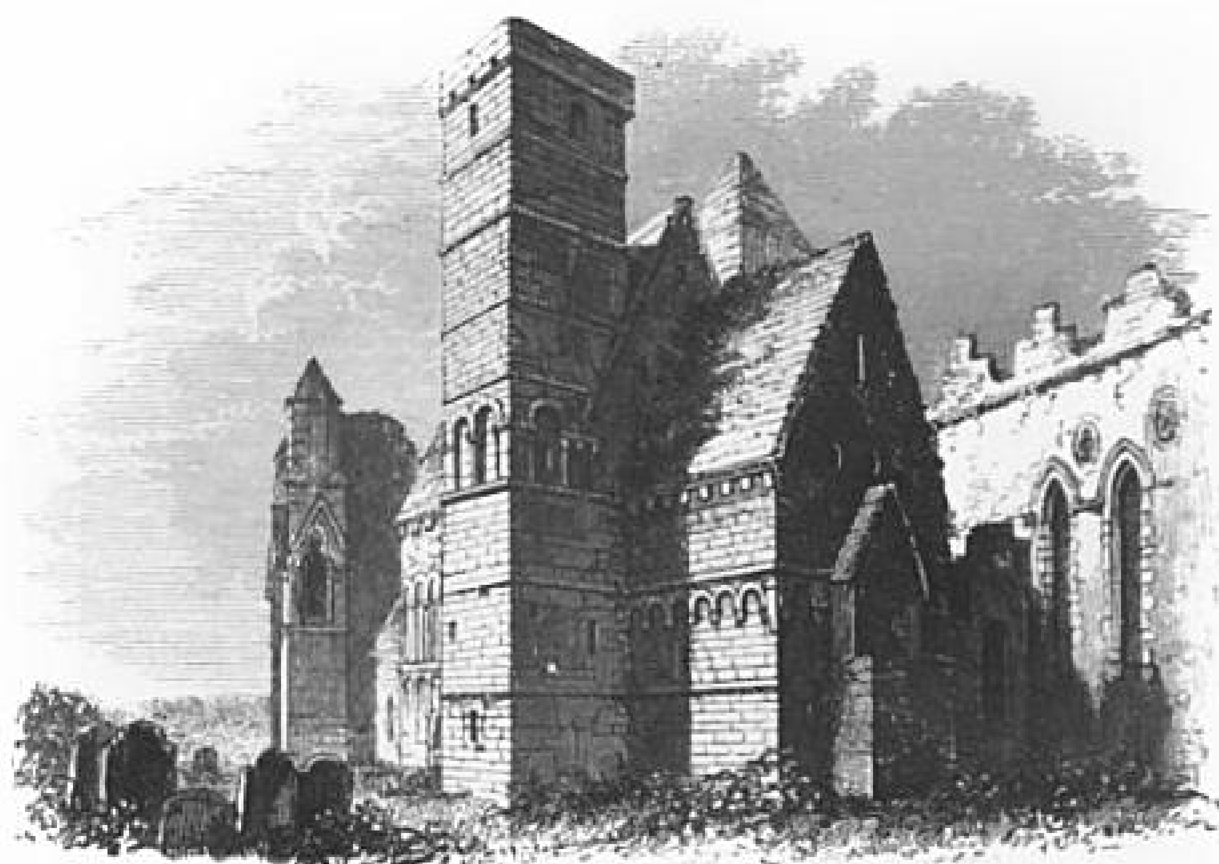


743. Oratory, Innisfallen, Killarney.

The most remarkable of these now existing is that known as Cormac's Chapel, in the rock at Cashel (woodcut No. 744), which was consecrated in the year 1134. It is a small building, 55 ft. long over all externally. The chancel is an apartment 12 ft. square internally, covered with an intersecting vault; the nave is 18 ft. by 29, and covered by a tunnel-vault with transverse ribs, very like those found in the south of France. Externally, as shown in the view, it has two square towers attached to it at the juncture between the nave and chancel, and is richly ornamented by a panelling of small arches.

In almost all cases the principal entrance to these churches is from the west, opposite to the altar. This chapel at Cashel is, however, an exception, having a north and a south entrance. That on the north is the principal, and very richly ornamented. The same is true at Ard-

[1] A good deal of uncertainty and even of ridicule has been thrown on the subject of the Eastern origin of the Irish church by the extreme enthusiasm of its advocates, but there seems to be no reasonable ground for doubting the fact. At all events it may safely be asserted that the Christian religion did not reach Ireland across Great Britain, or by any of the ordinary channels from the Continent.



744. Cormac's Chapel, Cashel.

more, where the whole of the west end is taken up by a bas-relief rudely representing scenes from the Bible, and the entrance is on the north side of the nave. On these principal entrances all the resources of art were brought to bear, the windows generally being very small, and apparently never having been glazed. There is one gateway at Freshford in Kilkenny, and another at Aghadoe near Killarney, which for elegance of detail will bear comparison with anything found either in England or on the Continent, of the same age.

One of the peculiarities of these churches is, that they were nearly all designed to have stone roofs, no wood being used in their construction.



745. Section of Chapel, Killaloe.

The annexed section (woodcut No. 745) of the old church at Killaloe, belonging probably to the 10th century, will explain how this was generally managed. The nave was roofed with a tunnel-vault with a pointed one over it, on which the roofing slabs were laid. Sometimes, instead of a continuous vault, the upper vault was cut into ribs, and the roof built up straight externally, with horizontal courses resting on them. This mode of double roofing was perhaps a complication and no improvement on that adopted in the south of France in the same age (woodcut No. 472), but it enabled the Irish to make the roof steeper than could be effected

with a single vault, and in so rainy a climate this may have been of the first importance.

The roof of Cormac's Chapel, Cashel (woodcut No. 744), is of this double construction; so is the building called "St. Kevin's Kitchen" at Glendalough (woodcut No. 746), which may belong to the 7th century. There is another very similar at Kells, and several others in various parts of Ireland, all displaying the same peculiarity.



746. St. Kevin's Kitchen, Glendalough.

Had the Irish been allowed to persevere in the elaboration of their own style, they probably would have applied this expedient to the roofing of larger buildings than they ever attempted, and might, in so doing, have avoided the greatest fault of Gothic architecture. Without more experience than we have to guide us, it is difficult to pronounce to what extent this expedient might have been carried with safety, or to say whether the Irish double vault is a better constructive form than the single Romance pointed arch; but it was so certainly an improvement on the wooden roof, that its early abandonment is much to be regretted.

Round Towers.

The round towers which accompany these ancient churches have long proved a stumbling-block to antiquaries, not only in Ireland but in this country, and more has been written about them, and more theories proposed to account for their peculiarities, than have been devoted to any other objects of their class in Europe.

The controversy has been, to a considerable extent, set at rest by the publications of Mr. George Petrie.[1] He has proved beyond all cavil that the greater number of the towers now existing were built by Christians, and for Christian purposes, between the 5th and 13th centuries, and has shown that there is no reasonable ground for supposing that the remainder are either of a different age or erected for different purposes.

It is true his argument only removes the difficulty one step farther back, as he does not attempt to show whence the Irish obtained this very remarkable form of tower, or why they persevered so long in its use, with peculiarities not found either in the contemporary churches or in any other of their buildings. No one supposes that this kind of tower was invented by the rude builders of the early churches, and no theory yet proposed accounts for the perseverance of the Irish in its employment while the practice of all the other nations of Europe was so widely different. It must have been a sacred and time-honoured form somewhere, and with some people, previous to its current adoption in Ireland, but the place and the time at which it was so still remain to be determined.

Although, therefore, Mr. Petrie's writings have considerably narrowed the grounds of the inquiry, they cannot be said to have set the question at rest, and any one who has seen the towers must feel that there is still room for any amount of speculation regarding such peculiar monuments.



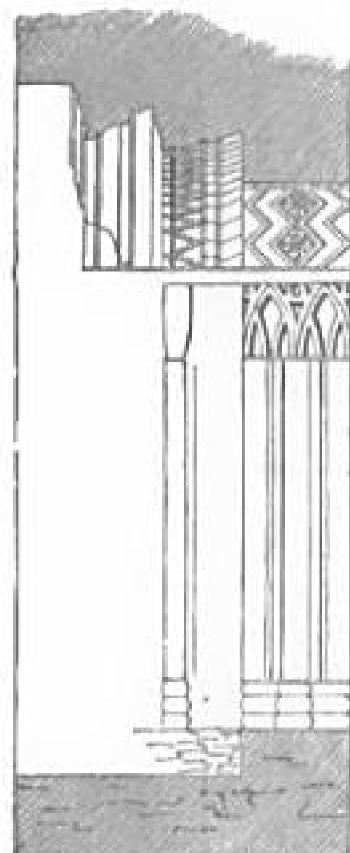
747. Round Tower and Chapel, Roscrea.

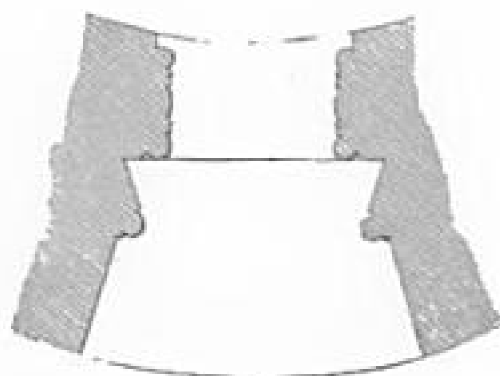
In nine cases out of ten they are placed unsymmetrically at some little distance from the churches to which they belong, and generally are of a different age and different style of masonry. Their openings have in all cases, from the oldest to the most modern, sloping jambs, which are very rare in the churches, and only found in the earliest examples. Their doorways are always at a certain height from the ground, 7, 10, or 13 ft., while the church doors are, it need hardly be said, always on the ground level. But more than

[1] The Ecclesiastical Architecture of Ireland anterior to the Anglo-Norman Invasion. Dublin, 1845.

all this, there is an unfamiliar aspect about every detail of them which is never observed in the churches. These latter may be rude or may be highly finished, but they never have the strange and foreign appearance which the towers always present.

Notwithstanding all this the proof of their origin is in most cases easy. In woodcut No. 746, for instance, a round tower is shown placed *upon* what is, undoubtedly, a Christian chapel, and which must consequently be either coeval or more ancient. At Roscrea (woodcut No. 747) the tower is bonded with the walls of the church, and evidently coeval, and the doorway of the church is undoubtedly of Christian round Gothic of the 10th or 11th century. At Kildare the doorway of the tower (woodcut No. 748) is likewise of unquestionable Christian art, though somewhat earlier, probably of the 8th or 9th century, and is most certainly an integral part of the design; and at Timahoe the doorway of the tower is richer and more elaborate, but at the same time of a style so nearly resembling that of Cormac's Chapel (woodcut No. 744) as to leave no doubt of their being nearly of the same age. The only remarkable difference is that the jambs of the doorway of the tower slope considerably inwards, while all those of the chapel are perfectly perpendicular. Another proof of their age is, that many of the doorways have Christian emblems carved *in relief* on their lintels, as in the example from the tower at Donoughmore (woodcut No. 749), or in that from Antrim (woodcut No. 750), or on the round tower at Brechin in Scotland, all which emblems are so situated that they could not have been added, and must therefore be considered as original. When we find that the other towers which have not these indications differ in no other respect from those that have, it is impossible to resist the proof of their Christian origin; the positive evidence of a few being sufficient to overbalance the mere absence of proof in a far greater number.





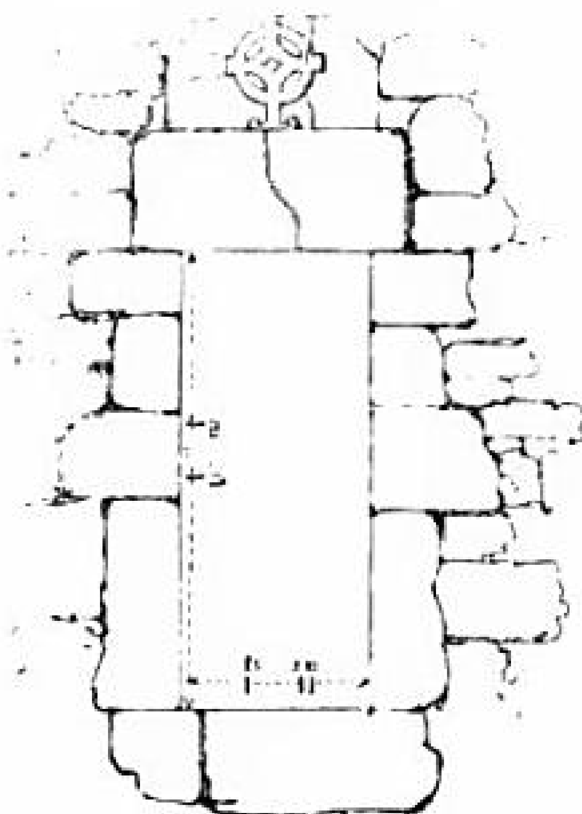
748. Doorway in Tower, Kildare.

Antiquaries have enumerated about 118 of these monuments as still to be found in Ireland; of these about 20 are perfect, or nearly so, and vary in height from about 60 ft. to 130 ft., which is the height of the imperfect one at Old Kilcullen. They all taper upwards towards the summit, and generally are crowned with a conical cap like that at Roscrea (woodcut No. 747), though not generally constructed in the herring-bone masonry there shown.

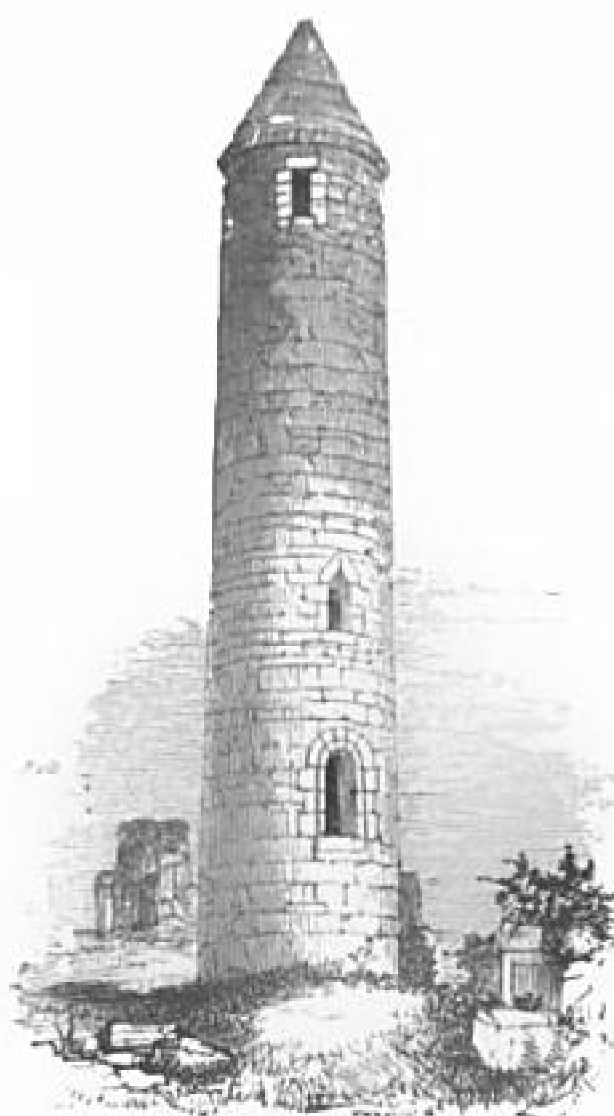
The tower at Devenish (woodcut No. 751) may be taken as a typical example of the class. It is 82 ft. high, with a conical cap, and its doorway and windows are all of the form and in the position most



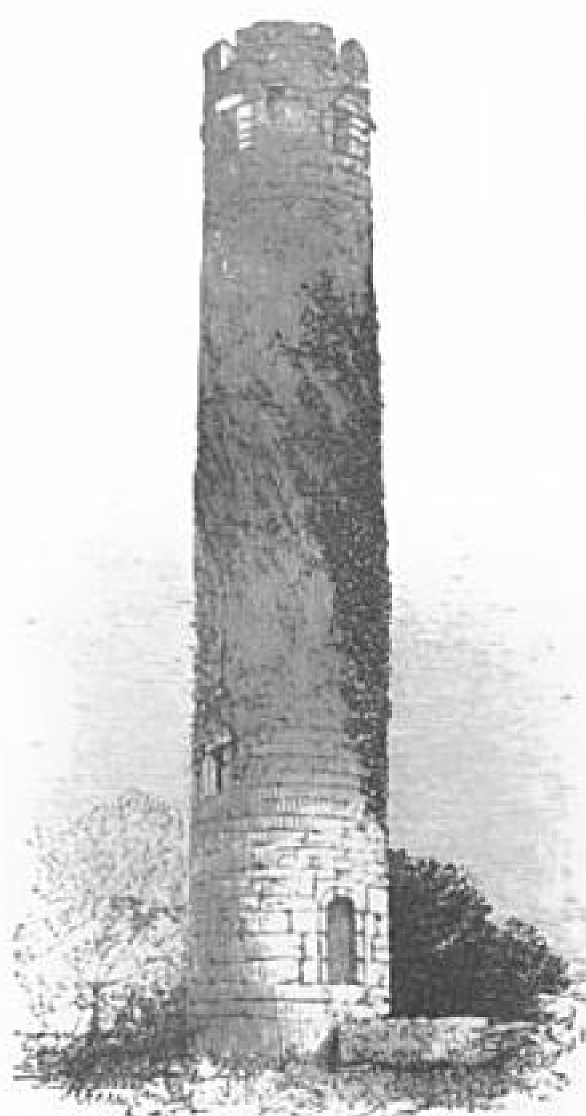
749. Doorway in Tower, Donoughmore, Meath.



750. Doorway in Tower, Antrim.



751. Tower, Devenish.



752. Tower, Kilree, Kilkenny.

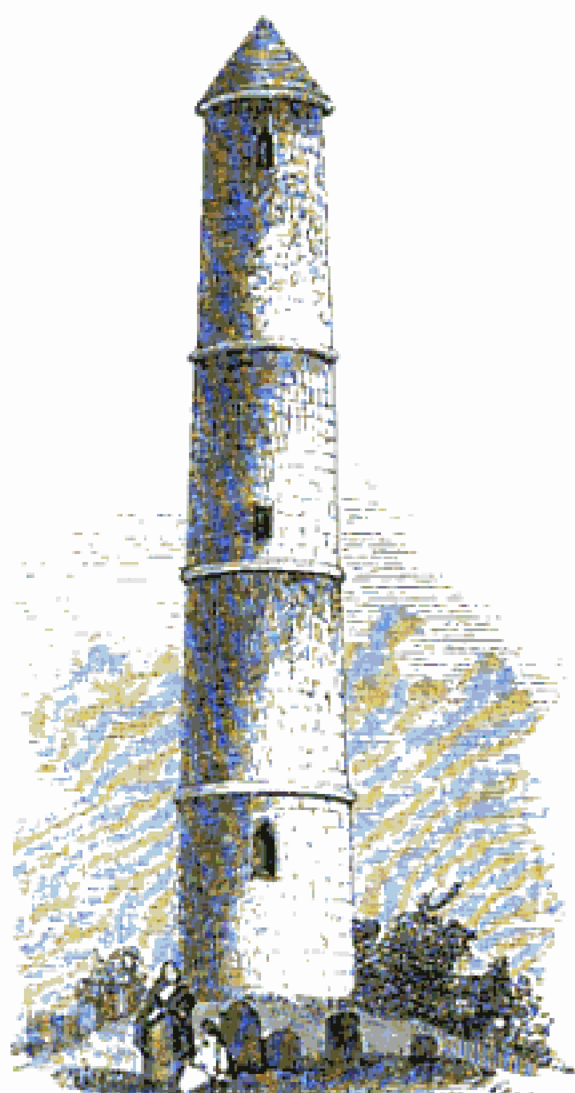
usually found in monuments of this class. Frequently the conical cap is omitted and a battlemented crown supplies its place; this is the case at Kildare, and also at Kilree (woodcut No. 752). In one

instance, and, I believe, one only, the base of the tower is octagonal (woodcut No. 753). This is found at Keneith, county Cork.[1]

One of the most beautiful and most perfect is that of Ardmore (woodcut No. 754). It is of beautiful ashlar masonry throughout, and

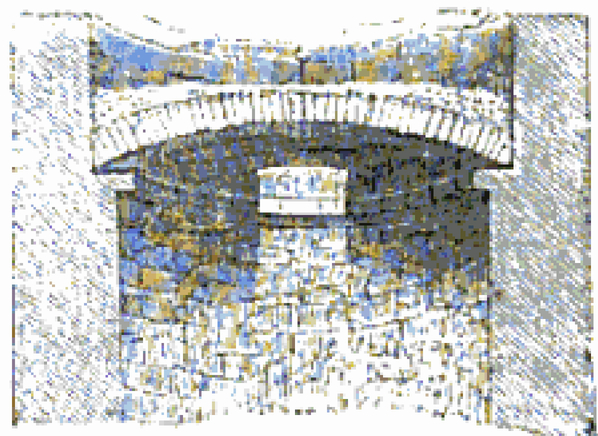


753. Tower, Keneith, Cork.



754. Tower, Ardmore.

is divided externally into 4 stories by string-courses, which do not, however, mark the position of the floors inside. All its mouldings and details lead to the presumption that it is nearly coeval with Cormac's Chapel, Cashel, and that consequently it must belong to the 12th century. It stands within the precincts of the rude old church mentioned above, and when explored not long ago the skeletons of two persons were found below its foundations, laid in such a manner as to lead to the inevitable conclusion that it was a place of Christian burial before the foundations of the tower were laid.



755. Floor in Tower, Keneith.

Generally the floors that divide the tower into stories are of wood, but sometimes they are of masonry, constructed as that shown (woodcut No. 755) from Keneith tower. They are always approached by ladders leading from one story to the next.

[1] Compare this with the contemporary tower at Gazni, woodcut No. 334.

Several instances of doorways have been quoted above. Of these no two are exactly alike, though all show the same general characteristics. That at Monasterboice, for instance (woodcut No. 756), has an arch cut out of a horizontal lintel extending the whole way across, while that at Kilcullen (woodcut No. 757) has the arch cut out of two stones, which is by far the most usual arrangement.

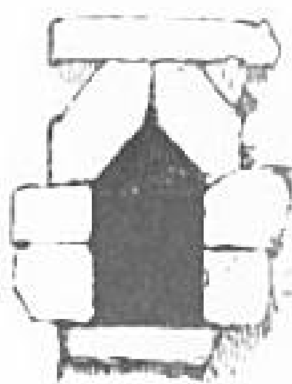


756. Doorway, Monasterboice.

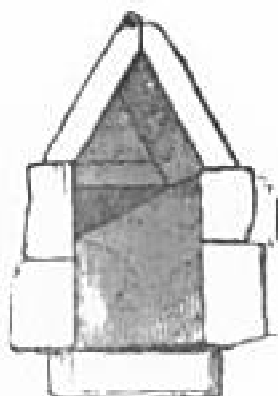


757. Doorway, Kilcullen, Kildare.

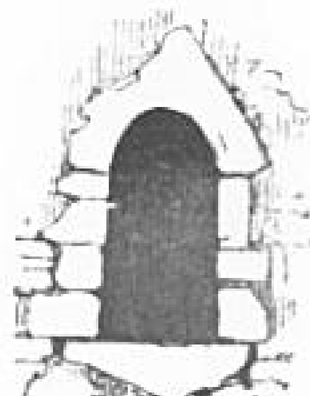
Their windows are generally headed with two stones meeting at the apex, as in the three examples here given (woodcut No. 758), but sometimes the window-head is either a flat lintel or a single stone cut into the form of an arch, as in this instance from Glendalough.







758. Windows in Round Towers.



759. Window, Glendalough.

Though these remarkable towers are of extremely various forms, differing according to their age and locality, almost all exhibit that peculiar Cyclopean character of masonry which has led to such strange, though often plausible, speculations; for not only their details but their masonry is such that if found at Norba in Latium or at Æniadæ in Acarnania it would excite no remark, but here it stands alone and exceptional to everything else.

Whatever may have been their origin, there can be no doubt as to the uses to which they were applied by the Christians—they were symbols of power and marks of dignity. They were also bell-towers.

But perhaps their most important use was that of keeps or fortalices; places to which, in troubled times, the plate of the church and everything of value could be removed and kept in safety till danger was past.

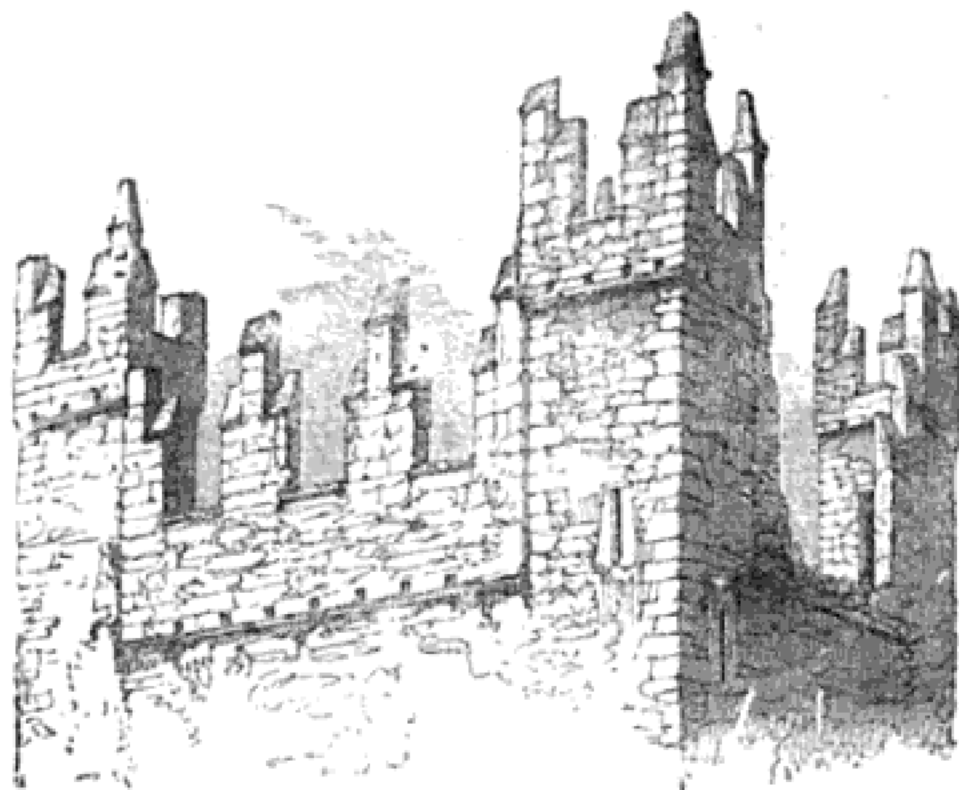
As architectural objects these towers are singularly pleasing. Their outline is always graceful, and the simplicity of their form is such as gives the utmost value to their dimensions. Few can believe that they are hardly larger than the pillars of many porticoes, and that it is to their design alone that they owe that appearance of size they all present. No one can see them without admiring them for these qualities, though the fascination they possess for every one that approaches them is no doubt in great measure owing to the mystery that still hangs round their origin and to the association of locality. In almost every instance the tower stands alone and erect beside the ruins of an ancient but now deserted church, and among the mouldering tombstones of a neglected or desecrated graveyard. If found in a town or among the busy haunts of men, they would lose half their charm; situated as they are, they are among the most interesting of the antiquities of Europe.

There is still another class of antiquities in Ireland older perhaps than even these round towers, and certainly older than the churches to which they are attached. These are the circular domical dwellings found in the west of the island, constructed of loose stones in horizontal layers approaching one another till they meet at the apex, like the old so-called treasuries of the Greeks, or the domes of the Jains in India. Numbers of these are still to be found in remote parts, and sometimes they are accompanied by what are properly called oratories, like that shown in woodcut No. 760, taken from Mr. Petrie's valuable work. It is certainly one of the oldest places of worship in these islands, belonging probably to the age of St. Patrick; and it is also one of the smallest, being only 23 ft. by 10 externally. It shows the strange Cyclopean masonry, the sloping doorway, the stone roof, and many of the elements of the subsequent style, and it is at the same time so like some things in Lycia and in India, and so unlike almost any other building in Europe, that it is not to be wondered at that antiquaries should in-


760. Oratory of Gallerus. From Petrie's Ancient Architecture of Ireland.

dulge in somewhat speculative fancies in endeavouring to account for such remarkable phenomena.

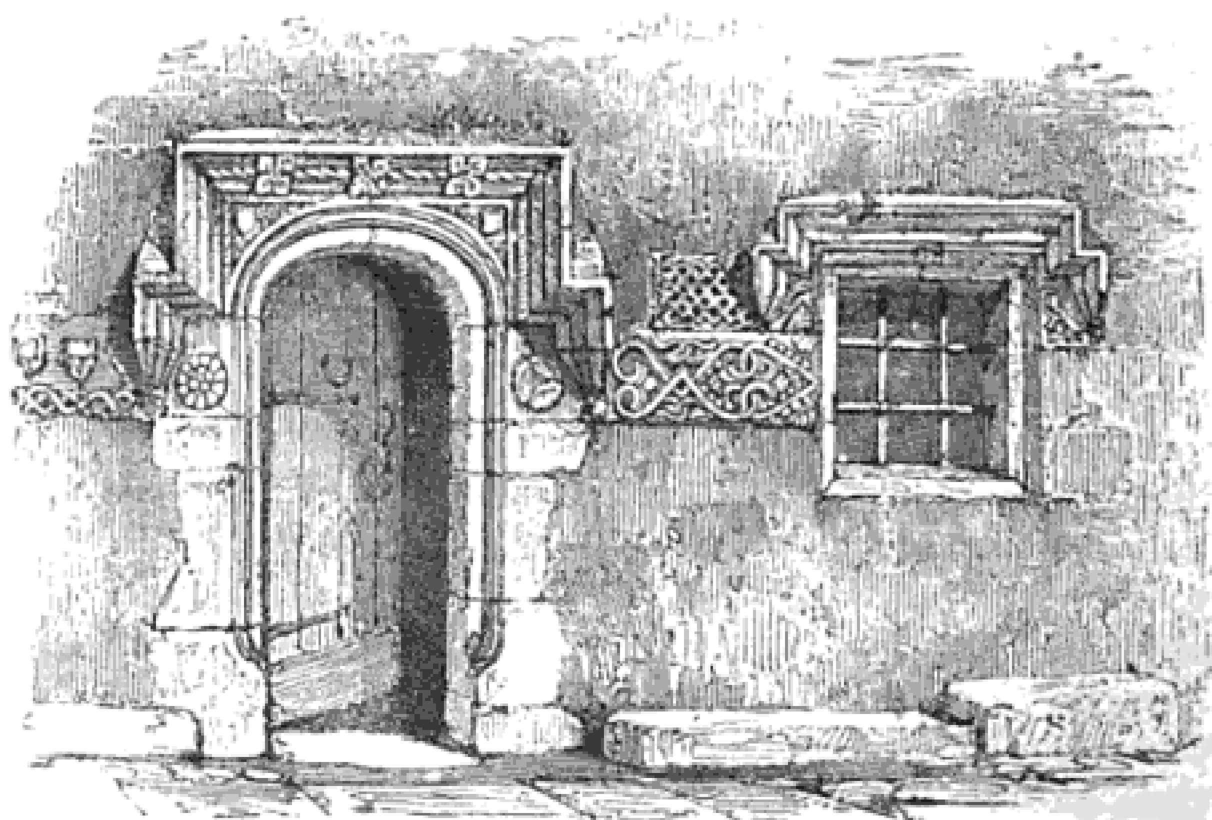
Ireland is not rich in specimens of domestic architecture of the middle ages, but such fragments as do exist show marked differences from the contemporary style in England. Such battlements for instance as those which crown the tower of Jerpoint Abbey are iden-



761. Tower, Jerpoint Abbey.

tical with many found in the north of Italy, but very unlike anything either in England or Scotland. They give a foreign look to the whole building which is very striking.

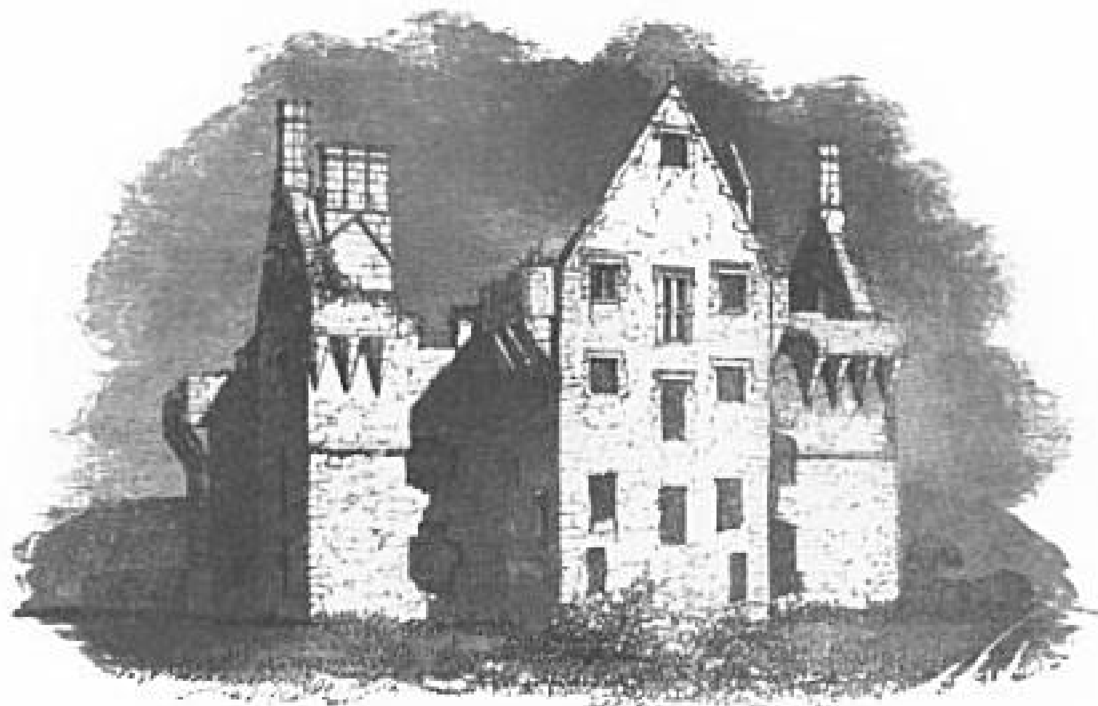
The same may be said of the next example (woodcut No. 762) from a house in Galway. Its architecture might be Spanish, but its ornamental details look like a reminiscence of the entwined decoration of



762. House, Galway.

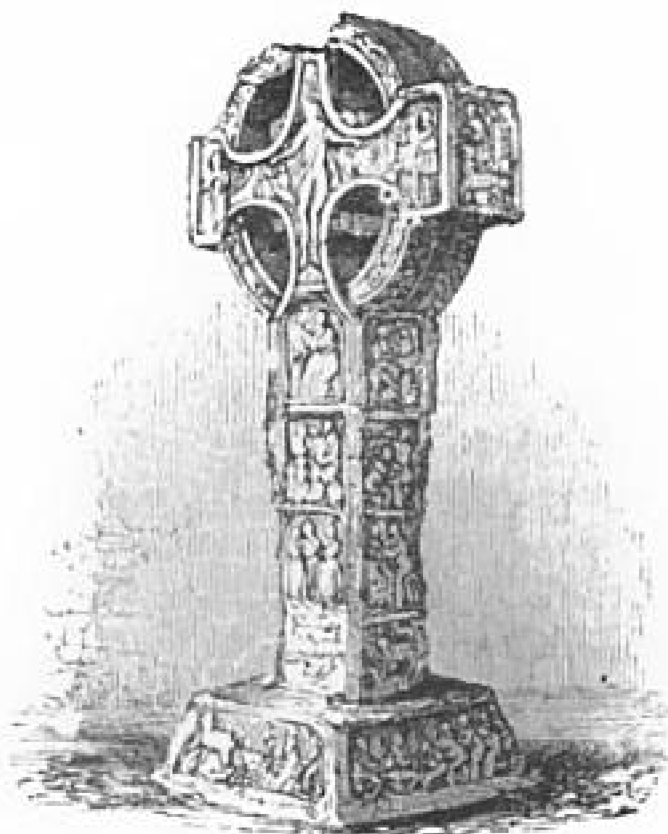
a Runic cross. From whatever source they are derived, it certainly was not England.

Ballyromney Court, illustrated in woodcut No. 763, is perhaps the most usual form of an Irish mansion in the last age of Gothic. After its time the Elizabethan became the prevalent style. All individuality



763. Ballyromney Court, Cork.

vanished with the more complete subjection of the country in the reign of that queen. This is, no doubt, to be regretted; but as before remarked, it is not for her Gothic so much as for her Celtic antiquities that Ireland is interesting, the epoch of which closed as nearly as possible with the English conquest in 1176.



764. Cross at Kells.

BOOK IX.

CHAPTER I.

SCANDINAVIA.

CONTENTS.

The three kingdoms of Denmark, Sweden, and Norway, including Finland, form in themselves an architectural province; not perhaps characterised by any very striking difference from the countries on the southern shores of the Baltic, but still so distinct as to make it convenient to treat them separately.

The buildings within the boundaries indicated are not so interesting to the architect as they are to the archæologist; none of them are worthy to be compared with the great English or French cathedrals either for size or for beauty of design, though many are old, and retain their peculiarities to an extent not often found elsewhere.

The most remarkable group of churches in Scandinavia is, beyond all doubt, that found at Wisby in the island of Gothland. During the 11th and 12th centuries a great portion of the Eastern trade which had previously been carried on through Egypt or Constantinople was diverted to a northern line of communication, owing principally to the disturbed state of the East, which preceded and in fact gave rise to the Crusades. At this time a very considerable trade passed through Russia, and centered in Novogorod. From that place it passed down the Baltic to Gothland, which was chosen apparently for the security of its island position, and its capital, Wisby, became the great emporium of the West. After two centuries of prosperity, it was gradually superseded by the rise of the Hanseatic towns on the mainland, and a final blow was struck by Valdemar of Denmark, who took the town by storm in 1361. Since then it has gradually become depopulated. The consequence has been that, no additional accommodation being required, the old churches have remained unaltered, nor have they been pulled down and their materials used for secular purposes.

Even now Wisby is said to retain eighteen churches belonging to the period of its prosperity, the whole island containing twice or three times that number.

The cathedral was originally founded about the year 1100, burnt down in 1175, and rebuilt as we now find it about 1225. Like all the others it is small, being only 180 ft. long by 80 in width. It is the only church now used for divine service, the remainder being in ruins.

One of the most remarkable churches in Wisby is that of the Holy Ghost, founded originally, it is said, in 1046. It is one of those double or two-storied churches so common in some parts of Germany, but in this instance displays peculiarities not found elsewhere.

The nave is an octagon about 52 ft. east and west. A square space in the centre is bounded by four stout pillars, between which the vault of the lower story is omitted, so as to leave an opening into the upper story. Four pillars of slenderer design support the vault of the upper church, and the whole, with the roofs, rises to about 100 ft. To the eastward is a choir, externally a rectangle, 32 ft. by 25, but internally semicircular at the eastern end.

The church most like this in Germany is perhaps that at Schwartz Rheindorf, mentioned above, p. 584. It also resembles the chapel at Freiburg (woodcut No. 608); but the most extended and indeed the typical example of a church of this class is St. Gereon's at Cologne (woodcuts Nos. 600 and 601).

The age of the church at Wisby is probably the middle of the 12th century, but without drawings it is impossible to judge with certainty of this.

The churches of St. Lawrence and St. Drothens both belong probably to the 11th century. That of St. Nicholas must be as late as the 13th, probably the end of it. The others range between these two dates, forming in themselves what is rarely met with—a complete and unaltered series of examples of the style.

Their most striking peculiarity seems to be that they are all small buildings like the Greek churches. There does not seem to have been any metropolitan basilica, or any great conventual establishment, but an immense number of detached cells and chapels scattered in groups all over the island, with very few that could contain a congregation of any extent. Till, however, they are investigated with care, and drawn, it is impossible to say whether this arose from any affinity to the Greek Church, or from some local peculiarity which we do not now understand.

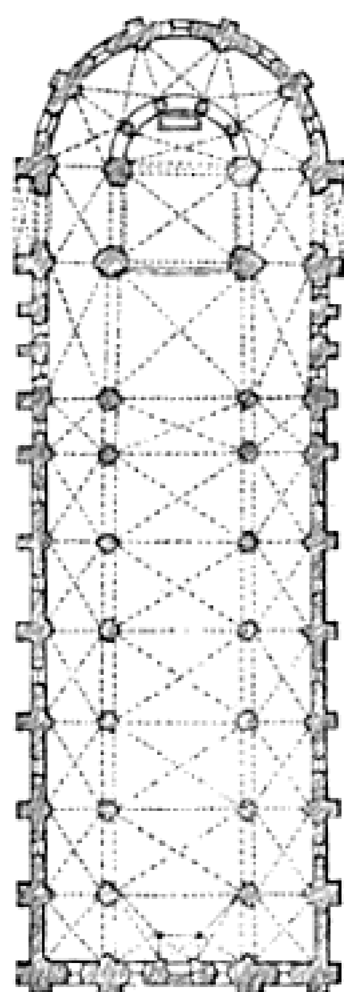
BORNHOLM.

On the island of Bornholm there exist a number of circular churches which have been sometimes described, yet never correctly drawn. They all apparently possess the peculiarity of four great pillars in the centre supporting the vault, and are remarkable for their massive rudeness of style rather than for any beauty of architectural design. So much indeed is this the case, that it has sometimes been doubted whether they owed their circular form and peculiar arrangement to ecclesiastical or to military considerations. If carefully examined and illustrated, they would be a valuable contribution to the history of circular churches of a very early age; but their architecture,

properly so called, is, it is to be feared, wholly without either beauty or interest.

Denmark.

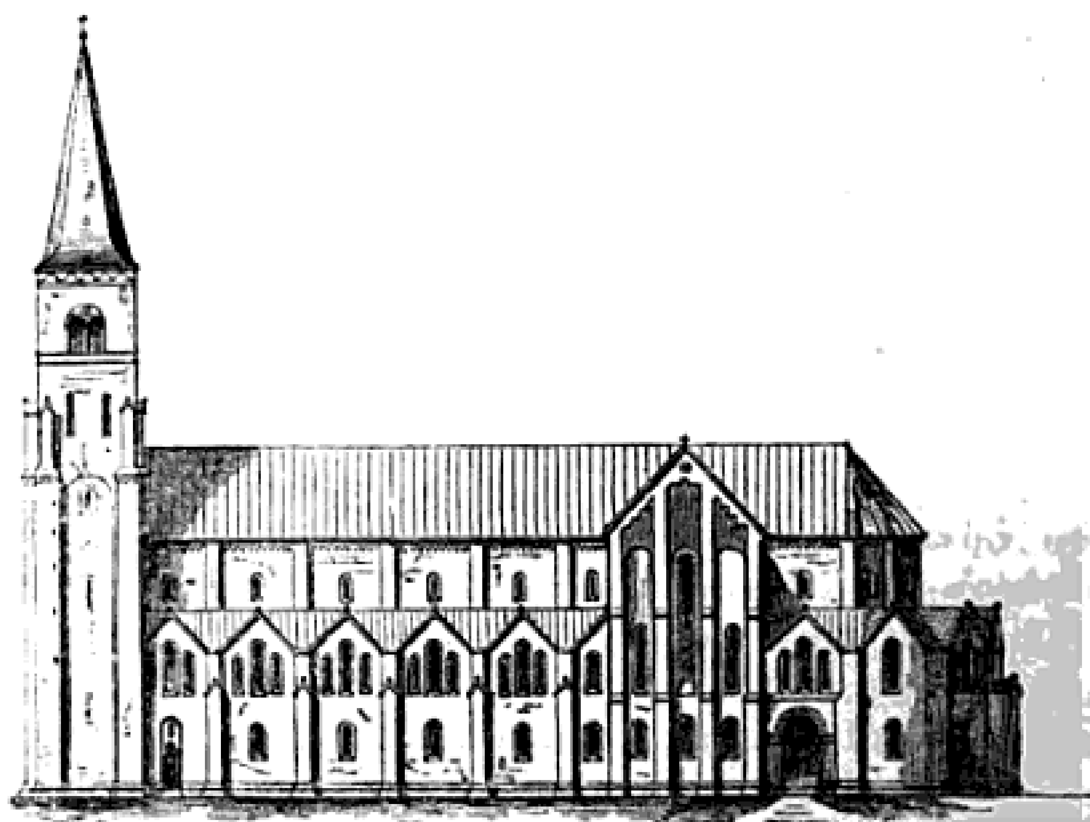
The most interesting church in Denmark is that at Roeskilde, in Jutland, which is now the burial-place of the kings, and the principal cathedral of the country. The original church was founded in the year 1081, and was then apparently circular, and of the same dimensions with the east end of the present edifice. This latter was commenced after the middle of the 12th century, and probably not completed as we now see it till towards the end of the 13th. The east end is probably one-half of the old round church rebuilt, the required enlargement of space having been obtained by a considerable extension of width towards the west.



765. Plan of Church at Roeskilde. From S. Friis. Scale 100 ft. to 1 in.

Its general dimensions, as shown in the plan (woodcut No. 765), are 270 ft. long by 80 in breadth internally. The whole area is only about 24,000 ft., and consequently not more than half that of most English cathedrals.

From the elevation (woodcut No. 766), it appears simple and elegant in its design, and contains the germ of much that is found afterwards in the churches of the neighbourhood, especially the range of small gables along the side of the aisles, marking externally each bay of the nave.[1] This is almost universal in the north of Germany, but seldom if ever found in France or England.



766. Roeskilde Domkirche. From Steen Friis. Scale 100 ft. to 1 in.

[1] The plan and elevation are taken from a description of the church by Steen Friis, published at Copenhagen, 1851. In both cuts the modern additions are omitted.

At Aarhuus is a somewhat similar church, commenced about the year 1200, but rather larger, being 300 ft. in length by 80 in breadth. Viborg, Ribe, and Mariboe also possess churches of some importance, but in their present state not remarkable for any points of architectural beauty.

SWEDEN.

The largest and finest church in Sweden is the cathedral at Upsala, commenced in the year 1287, from designs furnished by Etienne Bonneil, a Frenchman who was brought over for the purpose of building this church. It is consequently erected on the plan of an ordinary French cathedral of that age, but being of brick, and not having been completed till 1440, it is very inferior to the contemporary churches in France. Besides these disadvantages, it was erected in a country where the pointed Gothic was a foreign style, and ill understood by the native workmen, who carried on the works after the death of the original designer. From these causes it presents all the defects of the Italian pointed Gothic churches, without their beauty of detail and material. This cathedral was moreover thoroughly repaired, and its spires rebuilt, during the last century. Though its size therefore is equal to that of the smaller cathedrals of the same age in other countries, and though its age is the best, it is, as it now stands, an extremely uninteresting church.

The same remarks apply to the church at Lidkoping (1260–1500). It is somewhat less in size than the cathedral of Upsala, and without any western towers or other ornaments externally. It is arranged internally without that knowledge of the style which alone can give effect to its beauties.

Next in dimensions to these is the cathedral at Lund, originally built between the years 1080 and 1150; but since that time so altered and built upon that it is difficult to trace the original design, and there is certainly nothing to be admired in its present appearance.

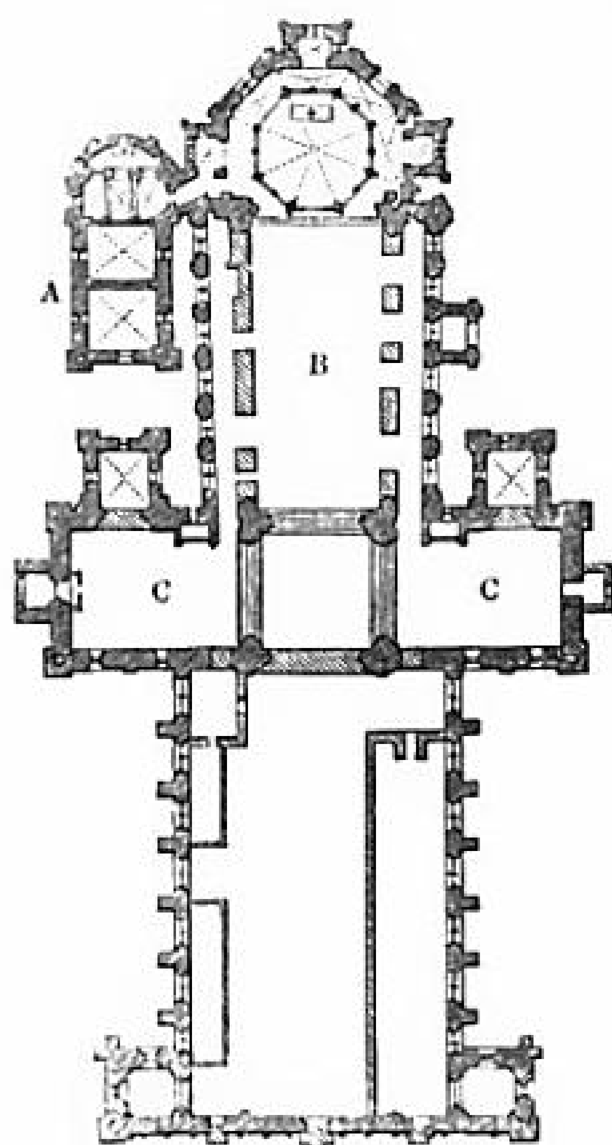
The churches of Westeraas, Stregnas, and Abo, are all large churches, about 300 ft. long by 120 in width, and founded between 1100 and 1200, but now possessing very little to deserve the attention of the architectural student.

NORWAY.

The Norwegians are more fortunate than either the Danes or Swedes in possessing at Trondhjem a national cathedral of great beauty and interest, even in its present ruined state.

Its history is easily made out from a comparison of local traditions with the style of the building itself. Between the years 1016 and 1030 St. Olaf built a church on the spot where now stands St. Clement's church, the detached building on the north, shown in plan at A (woodcut No. 767). He was buried a little to the south of his own church, where the high altar of the cathedral is now situated. Between the years 1036 and 1047, Magnus the Good raised a small wooden chapel over St. Olaf's grave; and soon afterwards Harald Haardraade built a stone

church, dedicated to our Lady, immediately to the westward of this, at B. This group of three churches stood in this state during the troubled period that ensued. With the return of peace in 1160, Archbishop Eysteen commenced the great transept c c to the westward of the Lady Chapel, and probably completed it about the year 1183. At that time either he or his successor rebuilt the church of St. Clement as we now find it. During the next sixty or seventy years the whole of the eastern part of the cathedral was rebuilt, the tomb-house or shrine being joined on to the apse of the Lady Church, as was explained in speaking of the origin of the French chevet (p. 621). In 1248 Archbishop Sigurd commenced the nave, but whether it ever was completed or not is by no means certain. In 1328 the church was damaged by fire, and it must have been after this accident that the internal range of columns in the circular part was rebuilt in the style of our earlier Edwards.



767. Plan of Cathedral of Trondhjem. Scale 100 ft. to 1 in.



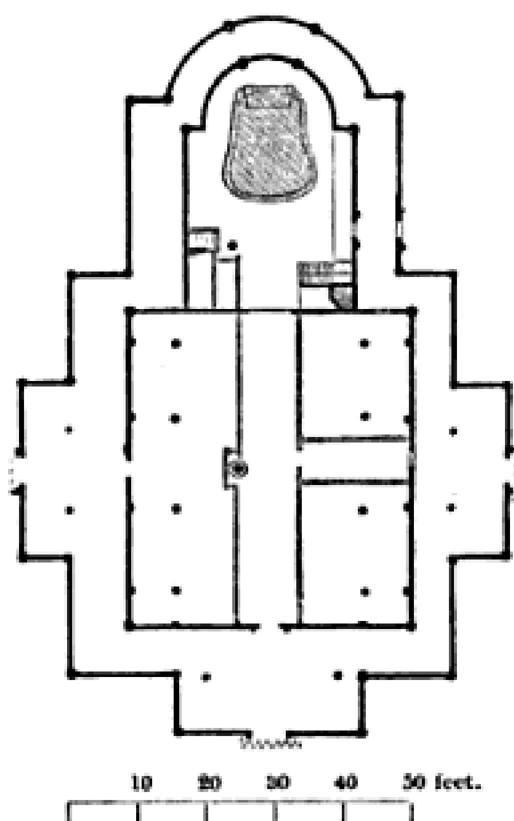
768 View of Cathedral of Trondhjem.

Thus completed, the church was one of the largest in Scandinavia, being 350 ft. long internally; the choir 64, and the nave 84 ft. wide. But its great merit lies more in its details than in its dimensions. Nothing can exceed the richness with which the billet moulding is used in the great transept. Its employment here is so vigorous and so artistic, that it might almost be suspected that this was its native place, and that it was derived from some wooden architecture usual in this country before being translated into stone.

The greatest glory of the place is the tomb-house at the east end. Externally this presents a bold style of architecture resembling the early English. Internally it is a dome 30 ft. in diameter, supported on a range of columns disposed octagonally, and all the details correspond with those of the best period of decorated architecture.

As will be observed from the plan (woodcut No. 767), the architect had considerable difficulty with all these rebuildings to bring the old and new parts to fit well together, and in consequence the walls are seldom straight or parallel with one another, and, what is most unusual, the choir expands towards the east. This is not, however, carried to such an extent as to be a blemish, and with a double range of columns down the centre would hardly be perceived, or if perceived, the effect would be rather pleasing than otherwise.

Had the western front been completed, it would have been one of the most beautiful anywhere to be found, not only from its extent (120 ft.), but also from the richness and the beauty of its details, belonging to the very best period of art, about the year 1300. In design and detail it resembles very much the beautiful façade of Wells cathedral. Like the rest of the cathedral, it is now in a very ruinous state, and, as will be seen by the view (woodcut No. 768), the whole is so deformed externally by modern additions, that its original effect can only be judged of by a careful examination of its details.



769. Plan of Church at Hitterdal.

The other stone churches of Norway do not appear to be remarkable. But there exists a series of wooden churches, of great interest to the antiquary, which is now fast disappearing from that country. Everywhere we read of the wooden churches of Saxon and Norman times in our country, and of the contemporary periods on the Continent; but these have almost all been either destroyed by fire or pulled down to make way for more solid and durable erections. That at Little Greenstead in Essex is almost the only specimen now remaining in this country.

The largest of those now to be found in Norway is that of Hitterdal. It is 84 ft. long by 57 across. Its plan is that usual in churches



770. View of the Church at Hitterdal. From Dahl's Holtz Baukunst in Norwegen.

of the age, except that it has a gallery all round on the outside. Its external appearance is very remarkable, and very unlike anything in stone architecture. It is more like a Chinese pagoda, or some strange creation of the South Sea islanders, than the sober production of the same people who built the bold and massive round Gothic edifices of the same age.

Another of these churches, that at Burgund, is smaller, but even more fantastic in its design, and with strange carved pinnacles at its angles, which give it a very Chinese aspect.

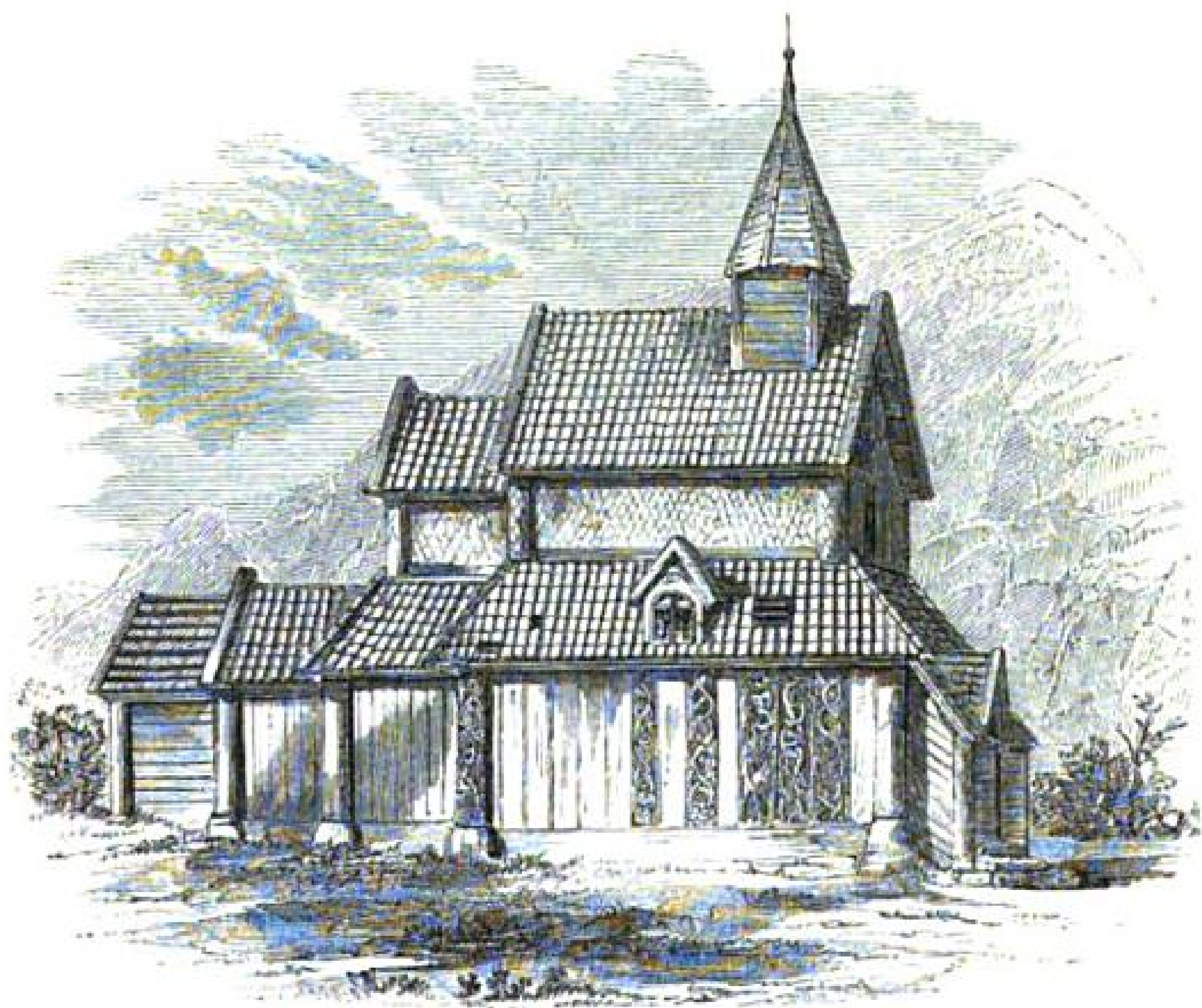
That at Urnes is both soberer and better than either of these, but much smaller, being only 24 ft. wide by 65 ft. from east to west. As may be seen from the view (woodcut No. 771), it still retains a good deal of the Runic carving that once probably adorned all the panels of the exterior, as well as the various parts of the roof. As these decayed they seem to have been replaced by plain timbers, which of course detract very much from the original appearance.

All the doorways and principal openings are carvéd with the same elaborate ornaments, representing entwined dragons fighting and biting each other, intermixed occasionally with foliage and figures.

This style of carving is found on crosses and tombstones, not only in Scandinavia, but in Scotland and Ireland. In its original form on wood it is only known to exist in these singular churches.

There can be no doubt about the age of these curious edifices, for not only does this dragon tracery fix them to the 11th or 12th century, but the capitals of the pillars and general character of the mouldings exactly correspond with the details of our own Norman architecture, so far as the difference of materials permits.

With the churches at Wisby these wooden churches certainly add a curious and interesting chapter to the history of architecture at the early period to which they belong, and are well deserving more attention than they have received.



771. Church of Urnes, Norway.

CHAPTER II.

POMERANIA.

CONTENTS.

Brick Architecture — Churches at Lubeck.

Along the whole of the southern shores of the Baltic extends a vast series of sandy plains, now composing the greater part of the kingdom of Prussia, with Mecklenburg and the duchy of Brandenburg. This district was to a considerable extent cultivated during the middle ages, and contained several cities of great commercial and political importance, which still retain many of their ecclesiastical and civil buildings.

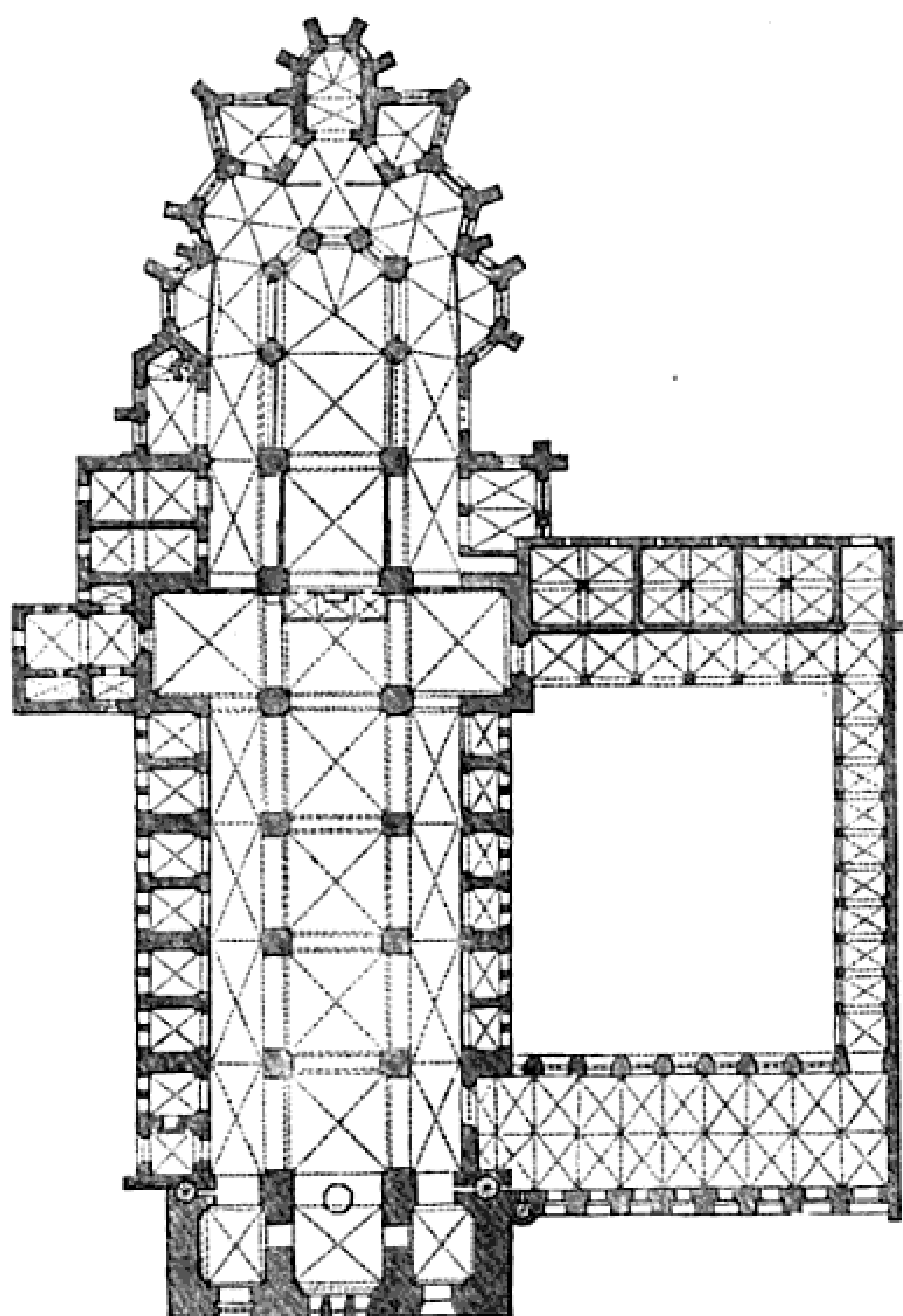
These plains being almost wholly without stone, nearly all these buildings are erected in brick, and principally from this cause display but little artistic merit.

It is true that in the hands of a refined and art-loving people like the inhabitants of the north of Italy, brick architecture may be made to possess a considerable amount of beauty. Burnt clay may be moulded into shapes as elegant, and as artistic, as can be carved in stone; and the various colours which it is easy to impart to bricks may be used to form mosaics of the most beautiful patterns; but to carry out all this with success requires a genuine love of art, and an energy in the prosecution of it, which will not easily be satisfied. Without this the facilities of brick architecture are such that it can be executed by the commonest workmen, and is best done in the least artistic forms. While this is the case, it requires a very strong feeling for art to induce any one to bestow thought where it is not needed, and to interrupt construction to seek for forms of beauty. In brick architecture, the best walls are those with the fewest breaks and projections, so that if relief and shadow are to be obtained, they must be added for their own sake; and more than this, walls may be built so thin that they must always appear weak as compared with stone walls, and depth of relief is almost impossible.

Another defect is, that a brick building almost inevitably suggests a plaster finishing internally; and every one knows how easy it is to repeat by casting the same ornaments over and over again, and to apply such ornaments anywhere and in any way without the least reference to construction or propriety.

All these temptations may of course be avoided. They were so at Granada by the Saracens, who loved art for its own sake. They were

to a considerable extent avoided in the valley of the Po, though by a people far less essentially art-loving than the Moors. But it will easily be supposed that this taste and perception of beauty exerted very little influence in the valley of the Elbe. There the public buildings were raised as cheaply as the necessities of construction would allow, and ornaments were applied only to the extent absolutely requisite to save them from meanness. Thus the churches represent in size the wealth and population of the cities, and were built in the style of Gothic architecture which prevailed at the time of their erection; but it is in vain to look in them for any of the beauties of the stone Gothic buildings of the same period.

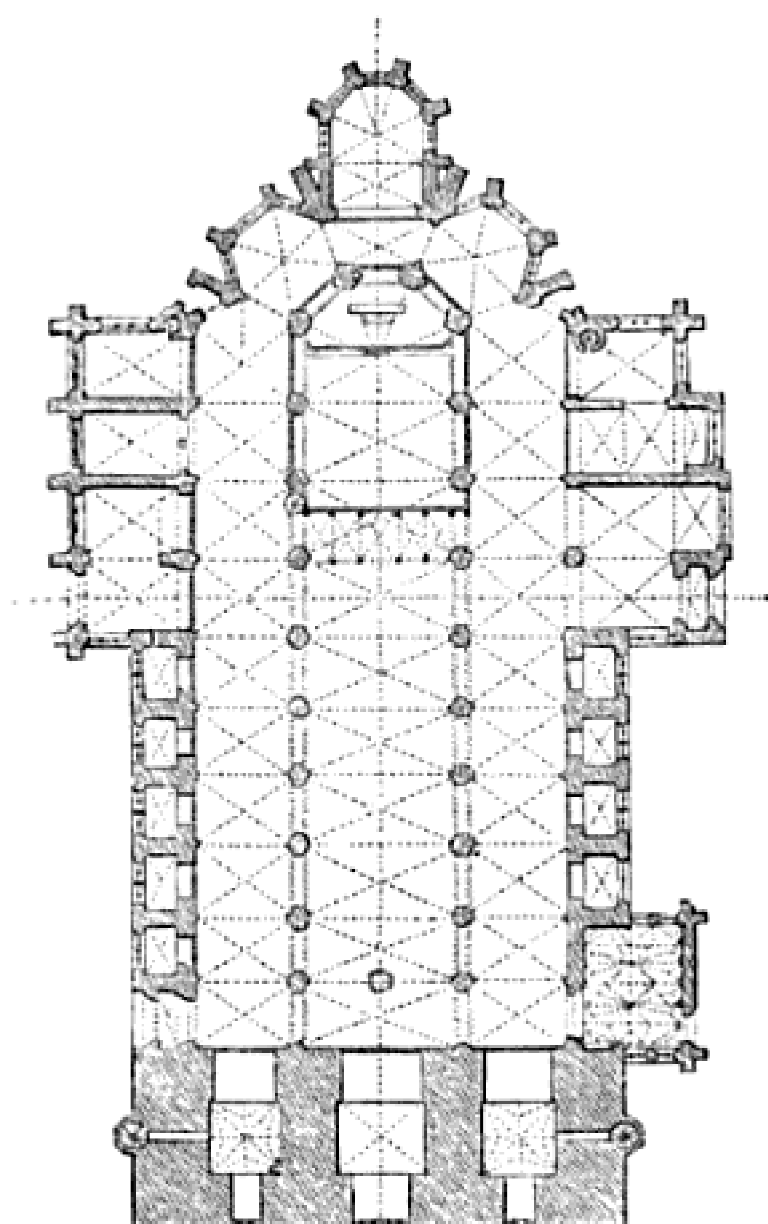


772. Cathedral, Lubeck. From Schlösser and Tischbein, Denkmale Lubeck. 100 ft. to 1 in.

The principal group of churches in this district is found at Lubeck, which was perhaps, in the middle ages, the wealthiest town on the shores of the Baltic. The largest of these is the Dom Kirche or Cathedral (woodcut No. 772), a building 427 ft. long over all. The nave is 120 ft. wide externally. The vaults of the three aisles spring from the same height, the central one being 70 ft. high, those of the side

aisles a little less. This, with the wide spacing of the piers, gives a poor and bare look to the interior. The choir is better, showing a certain amount of variety about the chevet; but even this is leaner than any stone building, and displays all the poverty on which we have remarked.

The Maria Kirche is a more favourable specimen of its class, though by no means so large. It is of a somewhat earlier age, and built more in accordance with the principles of Gothic design. The central aisle is 130 ft. high; the side aisles only half as much. This allows space for a very splendid clerestory, which, if filled with stained glass, would redeem the flatness of the mouldings and the general poverty of the architecture of the interior.



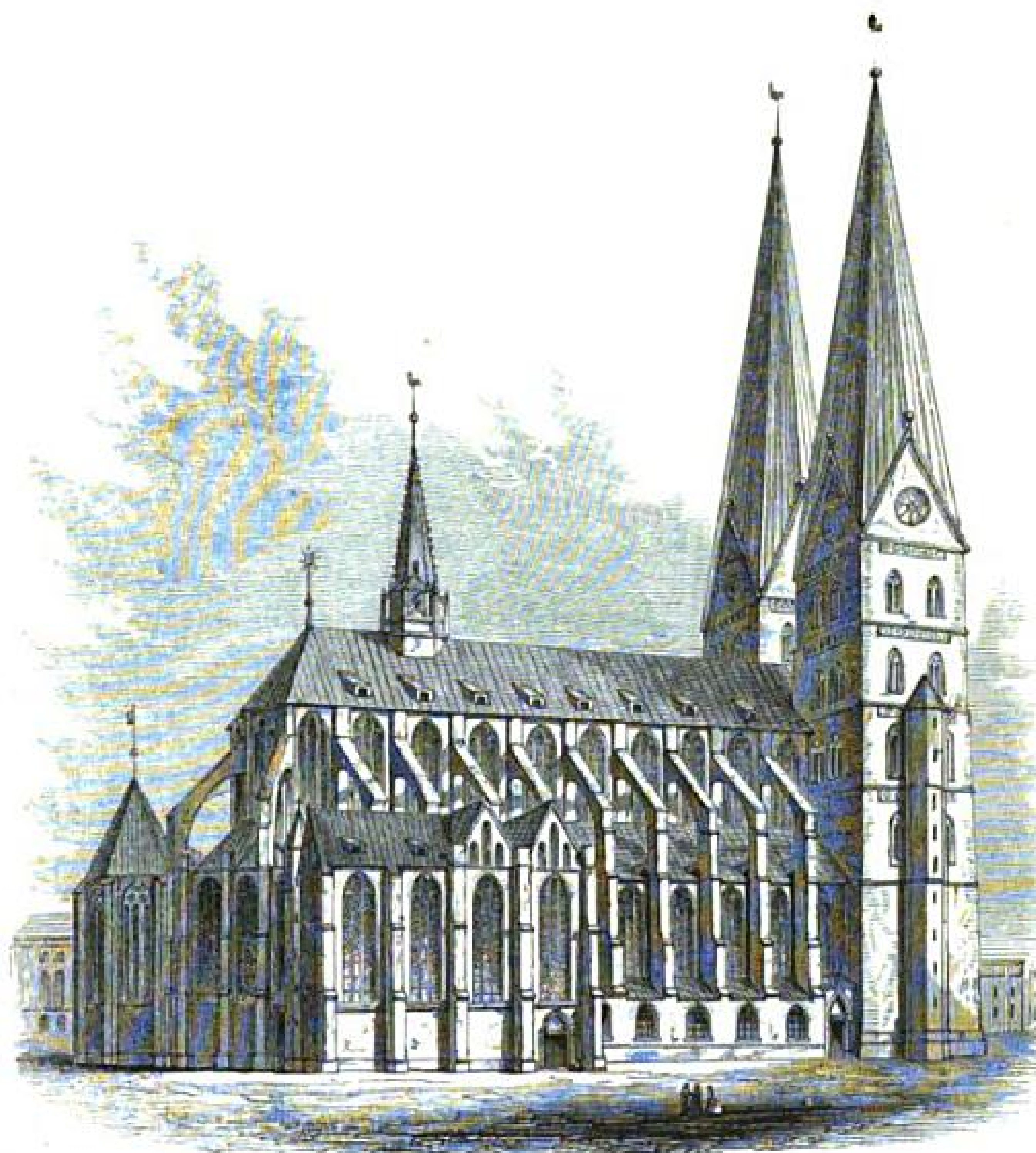
773. Church of St. Mary, Lubeck.
100 ft. to 1 in.

The church of St. Catherine is smaller than either of these, though of about the same age as that last mentioned, and of as good a design. It possesses the somewhat curious peculiarity of having a double choir, like that of San Miniato, near Florence (woodcut No. 381). The whole of the lower choir is vaulted over, and a second, at a height of 20 ft., forms an upper choir over its whole extent.

There are several smaller churches in Lubeck, none of which show any peculiarities not found in the larger. The same faults which characterise the interior of these churches are also found in the exterior. The Maria Kirche (woodcut No. 773) is the best of them in this respect, but though its outline is good, it is far from being a pleasing specimen of architecture. Its two western towers are of the form typical in Lubeck. They are just 400 English ft. in height, and with these dimensions ought to be imposing objects, but they certainly are not so, being in fact as bad specimens as could be of Gothic towers.

As usual in Germany, there is no door at the west end, and the principal entrances to these churches are lateral; one of those attached to the cathedral is an elaborate and beautiful piece of stone architecture, but it is the only one apparently that is at all remarkable.

Some of the rood screens are covered with carving, and the tabernacles, or receptacles for the holy elements, are, as in most parts of



774. Church of St. Mary, Lubeck. From Schlösser and Tischbein.

Germany, elaborately ornamented. They are nearly of the same age and of the same style as those at Nuremberg, one of which is represented in woodcut No. 618.

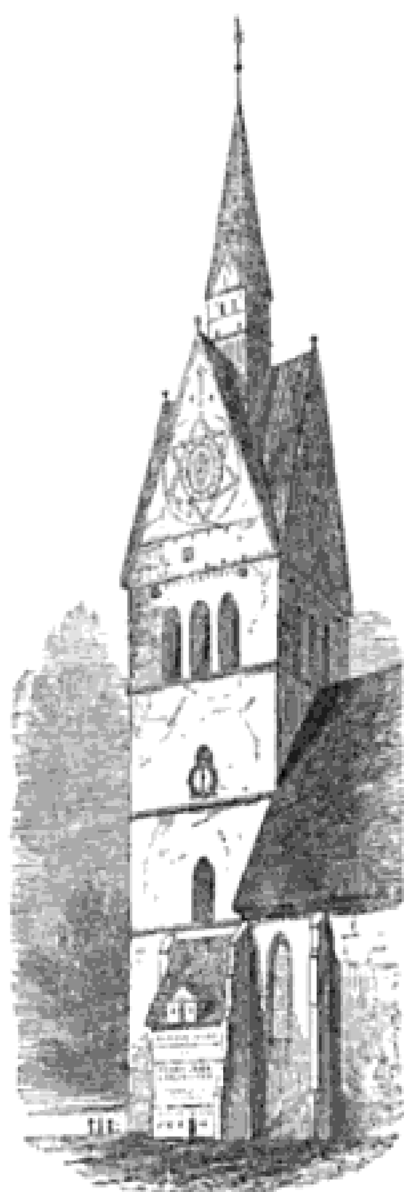
Dantzic possesses several large churches very similar, both in style and arrangement, to those of Lubeck. The principal of these is the cathedral, or Marien Kirche, commenced in its present form in 1343, and completed in the year 1502. It is 316 feet long and 105 in width, with a transept extending to 206 feet. The whole area of the church is about 42,000, so that though not among the largest, it may still be considered as a first class church; and, being of a good age, it is as effective in design as any of the brick churches of the province. It has one tower at the west end 230 feet in height.

The church of St. Catherine is in part older than the cathedral, having been founded in 1185, though it was to a great extent rebuilt at a subsequent period. Its dimensions as it now stands are 210 feet long, 120 wide over all. Neither it nor any of the other churches of

the town seem to have any remarkable feature of design or construction worthy of being alluded to.

The town of Luneburg retains not only its public buildings, but its street architecture, nearly as left from the middle ages; and its quaint gables and strange towers and spires give it a character that is picturesque and interesting, but cannot be said to be beautiful. Nor is there anything in its architecture that is worthy either of admiration or imitation.

The form of church tower found there, and indeed generally in the district, is a modification of that at Paderborn (woodcut No. 451), and is well exemplified by that in the Kœblinger Strasse at Hanover (woodcut No. 775). It is an honest and purpose-like piece of architecture, but certainly without any pretensions to beauty of design.



775. Tower in the Kœblinger Strasse, Hanover.

At Hamburg, fires, and the improvements consequent on modern activity and prosperity, have nearly obliterated all the more important buildings which at one time adorned that city.

At Konigsberg, at the opposite extremity of the district, there seems to be little that is remarkable, except a cathedral, possessing an enormous façade of brickwork, adorned with blank arches, but without the smallest pretensions to beauty, either internally or externally.

The most remarkable among the civil buildings of the province is the castle at Marenburg, which was for nearly a century and a half the residence of the masters of the once powerful knights of the Teutonic order. The Alte Schloss was built in 1276, the middle castle in 1309; so that it belongs to the best age of Gothic art; and, being half palace, half castle, ought to possess both dignity and grandeur. It betrays, however, in every part the faults of brick architecture in this province, and though curious is certainly not beautiful. All the windows are square headed, though filled with tracery, and the vaultings of the principal apartments are without grace in themselves, and do not fit the lines of the openings; even the boldly projecting machicolations, which in stone architecture give generally such dignity to castellated buildings, here fail in producing that effect, from the tenuity of the parts and the weakness of their apparent supports.

The town hall at Lubeck is imposing from its size, and singular from the attempt to gain height and grandeur by carrying up the main wall of the building high above the roof, or where any utilitarian purpose can be suggested for it. Indeed there are few towns in the province that do not possess some large civic buildings, but in all instances these are less artistic than the churches themselves; and, though imposing from their mass and interesting from their age, they are hardly worthy of notice as examples of architectural art.

CHAPTER III.

HOLLAND.

CONTENTS.

Churches — Civil and Domestic Buildings.

HOLLAND is almost as rich in churches as Belgium, and far more so than any of the countries last described, possessing many erected in the best age of mediæval architecture. Several of the churches of Holland are large, and their general arrangements unexceptionable. Notwithstanding this, hardly one of them can be considered comparable, as an architectural object, with those of the same age in France or England, or has ever been regarded as worthy of study or admiration. A great deal of this is no doubt owing to their being generally built of brick, like those mentioned in the last chapter, in consequence of which they have all the leanness and want of design which is the usual fault of brick architecture. Besides this, the style was not indigenous in Holland. No round arched Gothic building is found within the limits of the country which was erected after its separation from Germany, nor any trace of progress or elaboration in any part of the style. The Dutch seem to have borrowed it from their neighbours, and used it as they found it, without much thought, neither caring for its beauties nor troubling themselves to understand its principles.

Judged by their dimensions alone, the churches of Holland ought to be almost as interesting as those of Belgium. They are generally large, with lofty and well-proportioned aisles. The transepts project boldly. They have frequently tall and not ungraceful western towers, and often large windows filled with good tracery, though mostly of a late age. Notwithstanding all these requisites of a perfect Gothic church, there is not one of them that must not be considered a failure from the causes before mentioned.

These remarks apply especially to the great churches at Haarlem, Leyden, and Rotterdam, and the two at Delft, the older of which contains some details worthy of attention. That at Gouda is remarkable for the beauty of its painted glass, though the architecture of the church is very unworthy of so brilliant an ornament.

The church at Dort is older than most of these, and has a venerable look about it that hides many of the faults of its architecture, but it will not bear examination.

The churches of Utrecht and Bois le Duc are to some extent exceptions to the general poverty of design which characterises the

churches of Holland. This is owing probably to the situation of these two churches on the verge of the province, and their proximity to Belgium and Germany. That at Utrecht consists now of merely two fragments—a choir and a tower, the nave that joined them having been destroyed by a storm and never replaced. What remains is good late German, though much disfigured by modern additions. The church at Bois le Duc is still a large and richly ornamented church, with a good deal of stone-work about it; but being too large for the decaying town in which it stands, it has suffered much from neglect, and is now in a very ruinous condition.

The church at Kampen, on the Zuider Zee, is better than most others, and many of the smaller churches on the borders of the province are worthy of more attention than they have received. There are few abbeys or monastic buildings of any importance to be found, such establishments having never been suited to the industrious character of the Dutch people.

Bad as are the churches of Holland, the town halls and civic buildings are even worse. There is not, in the whole of the Netherlands, one that can be classed as a work of fine art. Even age has been unable to render them tolerably picturesque; nor are there in the province any belfries with their picturesque forms, nor any palaces worthy of note, belonging to the middle ages. The older dwelling-houses are sometimes picturesque and pleasing, but less so than those of Belgium. Most of them are unpretending specimens of honest building, the result of which is often satisfactory; and combined, as they generally are in Dutch towns, with water and trees, and with the air of neatness and comfort which pervades the whole, we sometimes scarcely feel inclined to quarrel with the want of the higher elements of art when so pleasing a result has been produced without them.

BOOK X.

BYZANTINE.



CHAPTER I.

CONTENTS.

Origin of Style — St. Sophia's — Other Churches at Constantinople — Churches in Greece — Byzantine Orders — St. Mark's, Venice.

THE term Byzantine has been so indiscriminately and so incorrectly applied to styles invented by people who hardly knew the name of Byzantium, and to forms of art which have not the slightest affinity with those practised in that capital, that it is now difficult to confine it within its true and only signification. Properly speaking, it applies only to that form of art invented in Constantinople after its virtual separation from the Western Empire, and practised by the Greek Church during the whole of the middle ages.

As now used, the name comprises every building possessing a dome, every style in which that form was at all usual, and every form of architecture in which polychromy was adopted to any extent. The latter is now known to have been common to all true styles, whether ancient or modern, and consequently far from being peculiar to Byzantine art; and it must not be forgotten that the Romans were the true inventors of the domical form as applied to large buildings. From Rome it went to Constantinople, and from the same source also came the few insignificant attempts at domes in the Western Empire.

In the following pages the term Byzantine will be restricted exclusively to the architecture of the Greek Church as it arose under Justinian, and continued, down to the 16th or 17th century, to be practised in all the Christian countries of the East. It will make this clearer if we recapitulate, as briefly as possible, the leading features of the history of art at this period, as it is more fully developed in another part of this work.

During the three centuries which elapsed from the age of Augustus to that of Constantine, the Roman form of architecture prevailed from the shores of the Atlantic to the valley of the Euphrates; and all round the shores of the Mediterranean, with the slight exception of Egypt, which for some time retained her own style. It was however a period of transition, and before Constantine assumed the purple a vast change

had come over the style. It had departed more and more from the columnar arrangements of the Greeks, in the place of which arches, together with domical and vaulted forms, had gradually come into use; and a new architecture was almost completely invented before the change of religion seemed to demand it.

During the next two centuries, from the time of Constantine to that of Justinian, a style prevailed which may properly be called the Romanesque, or Christian Roman, differing but slightly from the Pagan Roman, which preceded it. The same style continued to be practised in Rome itself during nearly the whole of the middle ages; and in Florence, Pisa, and generally along the western shores of Italy, till a late period. In Lombardy, and in all those parts of Europe to which the Indo-Germanic barbarians penetrated, and which they subdued, the Romanesque was superseded by the barbarian styles, properly called Gothic, which entirely revolutionised the art, giving it new vigour and greater variety and beauty than either the Roman or Romanesque was capable of attaining.

Owing to the paucity of examples, and the imperfect mode in which those which do exist have hitherto been examined, it is not so easy to define exactly the changes which took place in this style in the East. We know that the circular temple of the Minerva Medica, that in Diocletian's palace at Spalatro, the baptistery of Constantine at Rome, the church which he built over the Holy Sepulchre at Jerusalem, and the round churches at Ravenna and elsewhere, are all very nearly identical in style; and that the church at Bethlehem, and the basilicas at Rome and Ravenna, are in like manner modifications of the basilicas of Pagan Rome; and as far as verbal descriptions can be relied upon, we may assert the same of the early churches at Antioch, Alexandria, and Constantinople.

At a very early period the separation commenced between the churches of the East and the West. These two great divisions of the Empire were inhabited by different races of people, and it was consequently impossible that they could practise the same religious forms, or be content with the same styles of art. At some future period it may be possible for us to trace the origin and progress of this schism in art. At present we must be content to begin our history with the age of Justinian, when the revolution was nearly complete, and Byzantine architecture had assumed an independent form, widely differing both from the Romanesque and from the Gothic, and which contained within itself the germ of all that was more fully developed in the succeeding ten or twelve centuries.

It is necessary therefore to bear in mind that there are three great divisions of true Christian art:—

First, the Romanesque, or Christianised Roman;

Secondly, the Gothic, or that style which was practised by the Teutonic and Celtic races wherever they predominated in Europe;

And, thirdly, the Byzantine, or the style used by all the Slavonic races of Europe as distinguished from the Teutonic, and generally by all nations professing the Greek form of the Christian religion. This

last division comprehended the whole of Eastern Europe, nearly all Christian Asia, Christian Africa, and Sicily, till the Church in those latter countries was overwhelmed by the Saracens. Its influence was felt also, to some extent, in the architecture of the western shores of the Adriatic, especially at Venice, which in the 10th and 11th centuries had far more affinity with the Eastern than with the Western Empire; and it also penetrated through the descendants of the Greek colonists of Marseilles into the south of France.

These, however, were rather influences than direct importations; and except the one example of St. Mark's Church at Venice, there is no building in the Western Empire that comes strictly within the limits of the present chapter, which will consequently be devoted wholly to Constantinople and those countries which derived their arts from that city.

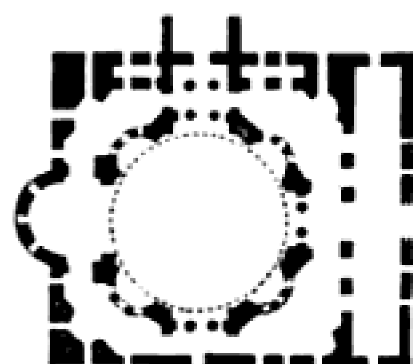
When we assert that the Byzantine is the direct lineal descendant of Roman architecture, it must be borne in mind that when one style is derived from another with a difference, that difference itself must also have had some source, though we cannot always trace it. In other words, any distinctly new style must be descended from more than one previously existing form.

In the present instance our information is still very deficient, but we can see that in the East a domical astylar form of architecture was very prevalent, and extended certainly very nearly to the Hellespont, if it did not pass it. The most typical form of this style is that known as the Sassanian, described in an earlier part of this work. We cannot, it is true, assert that it was invented by the Sassanidæ. Indeed, from its being a domical style, and indulging in circular forms, it arose far more probably among their Parthian predecessors, or some Scythian or Tartar race; but it certainly was carried further, and to a greater degree of perfection, by the Sassanian kings of Persia than by any other people of that age.

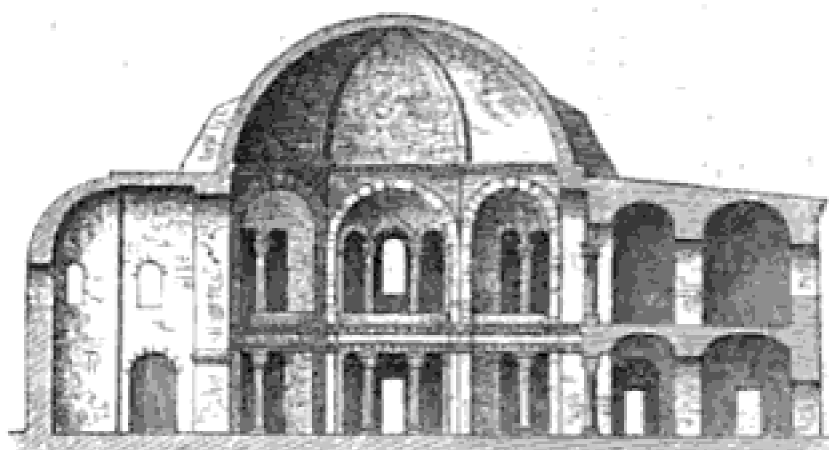
As far as we know, the Sassanian style first assumed a definite shape and form about the age of Constantine, and arrived at its highest pitch before Justinian ascended the throne. It is exactly such a style as, amalgamated with the architecture of Rome, would produce the style we are about to describe; and it will be very interesting, as our knowledge of Asia Minor advances, to trace the steps by which this domical and vaulted style gradually displaced the wooden roofs with their columnar supports, which formed the staple of Greek and Roman architecture.

As we are unable, from our ignorance of the intermediate examples, to trace the history of the style in the East during the period that elapsed between Constantine and Justinian, it is fortunate that we now possess two undoubted examples of the buildings of the last-named Emperor still remaining in Constantinople, and unaltered in all their principal parts. These are now known as the Greater and Lesser Sta. Sophia, but the latter is more correctly termed the church of Sts. Sergius and Bacchus, having been dedicated to those martyrs. Externally it is a rectangle of about 87 ft. by 103. Internally it consists of

a large square chamber surmounted in the centre by a dome 47 ft. in diameter, resting on eight piers, alternating with pairs of pillars which support a gallery or upper story which runs all round it. To the west is the narthex, which is an invariable accompaniment of a Greek church, and opposite to this the apse. On the south side are a range of tribunes, probably designed to keep off the heat of the southern sun.

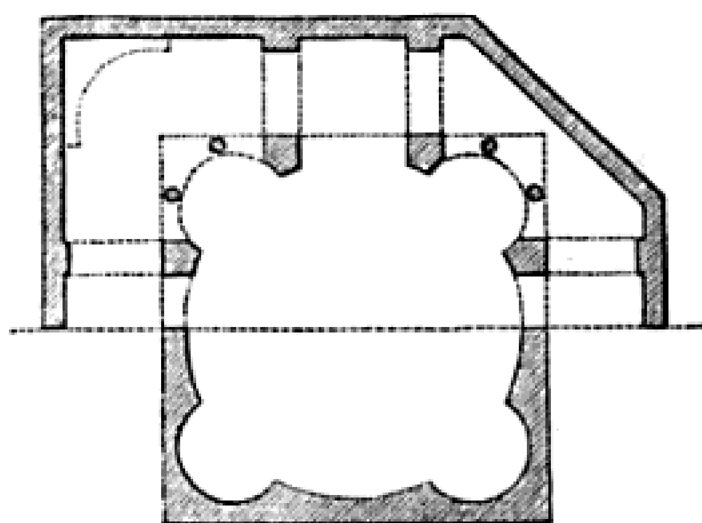


776. Church of Sergius and Bacchus. Scale 100 ft. to 1 in.



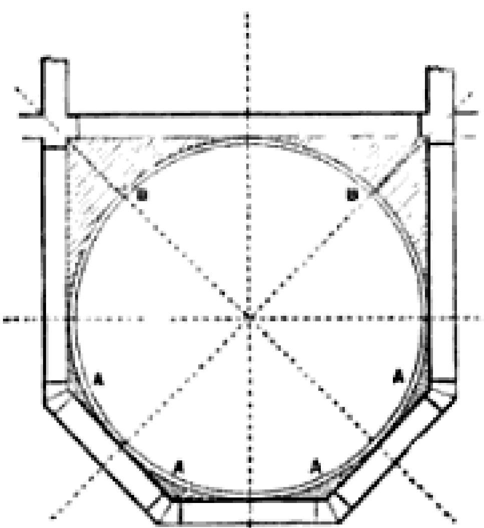
777. Section of Church of Sergius and Bacchus. From A. Lenoir, Architecture Monastique. Scale 50 ft. to 1 in.

Thus arranged, the building contains nearly all the elements of a complete Byzantine church, which we are thus enabled to trace back to their sources. As we have already seen in Rome, the original and simple way of supporting a dome was on a circular drum of solid masonry, as in the Pantheon for instance. The solemn grandeur of this form was perfectly suitable for a very simple building, such as a tomb; but when a portico was to be added, or when other chambers or other buildings were to be arranged around it, the inconvenience of the circular shape was immediately felt. This was partially avoided by the substitution of the octagon, as in the temple in Diocletian's palace at Spalatro (woodcut No. 252); but far more effectually by placing the inner circle in a square inclosure, and then making the spaces in the angles into great niches, as in the lower part of woodcut No. 778, so that considerable lightness and variety were obtained, and very little room sacrificed. To increase the dimensions of either a circular or square building covered by a dome resting on solid walls, it is necessary to increase the size, and consequently the weight and thrust of the dome. This involves all the constructive difficulties which render the use of domes so rare. To get over these difficulties the Romanesque architects devised the following expedient. They built an octagon or square *outside* the space intended to be covered by the dome, as shown in the upper part of the last woodcut. Immediately under the dome they left only the 8 piers at the angles of the



778. Diagram of Byzantine arrangement.

octagon. These supported the downward pressure of the dome, while its outward thrust was resisted by the roofs which covered the space between the outer walls and the dome, and by the outer walls themselves. This method had the additional advantages of enlarging the space on the floor, and of giving to the interior great variety of perspective, and a much better and more effective gradation of parts than could be obtained by the simpler arrangement. This process produced the church of St. Vitale at Ravenna (woodcut No. 392) from the original octagon, and this church of St. Sergius and Bacchus at Constantinople, as shown in the last woodcut, from the square. In both these instances the lines of the original walls were retained, the walls being replaced by columns supporting galleries, on which was an upper tier of columns, extending to the roof. As long as the Byzantine architects were content to confine themselves to domes placed on octagons, or supported by eight piers, they had no great difficulties to contend with in the adaptation of the covering to the substructure. The octagon is practically so near a circle, that all that is required is a small bracket in every angle as shown at A A, woodcut No. 779, and the dome fits at once and easily on its base. It was felt however that this mode of construction practically limited the church to the space below the dome; and even if this were made 100 ft. in diameter, the church was virtually a hall of that size only, surrounded by galleries and niches. An attempt was therefore made to get over this difficulty by placing the dome on four instead of eight piers: to effect this it was necessary to fill up the whole angle of the square by a great bracket, as shown in the last woodcut at B B, which was in itself a constructive problem of no small difficulty.



779. Diagram of Byzantine Pendentives.

It has already been explained (pp. 433–440) that the Saracenic architects obviated some of this difficulty by the adoption of pointed arches for their pendentives. The Byzantines did not adopt this expedient, at least at this early age, but boldly proceeded to construct them by bracketing out to the required extent; and even in Justinian's age they accomplished that task at Sta. Sophia's with a degree of success that was not surpassed till the construction of the dome over the tomb of Mahomet at Beejapore (p. 439 *et seqq.*).

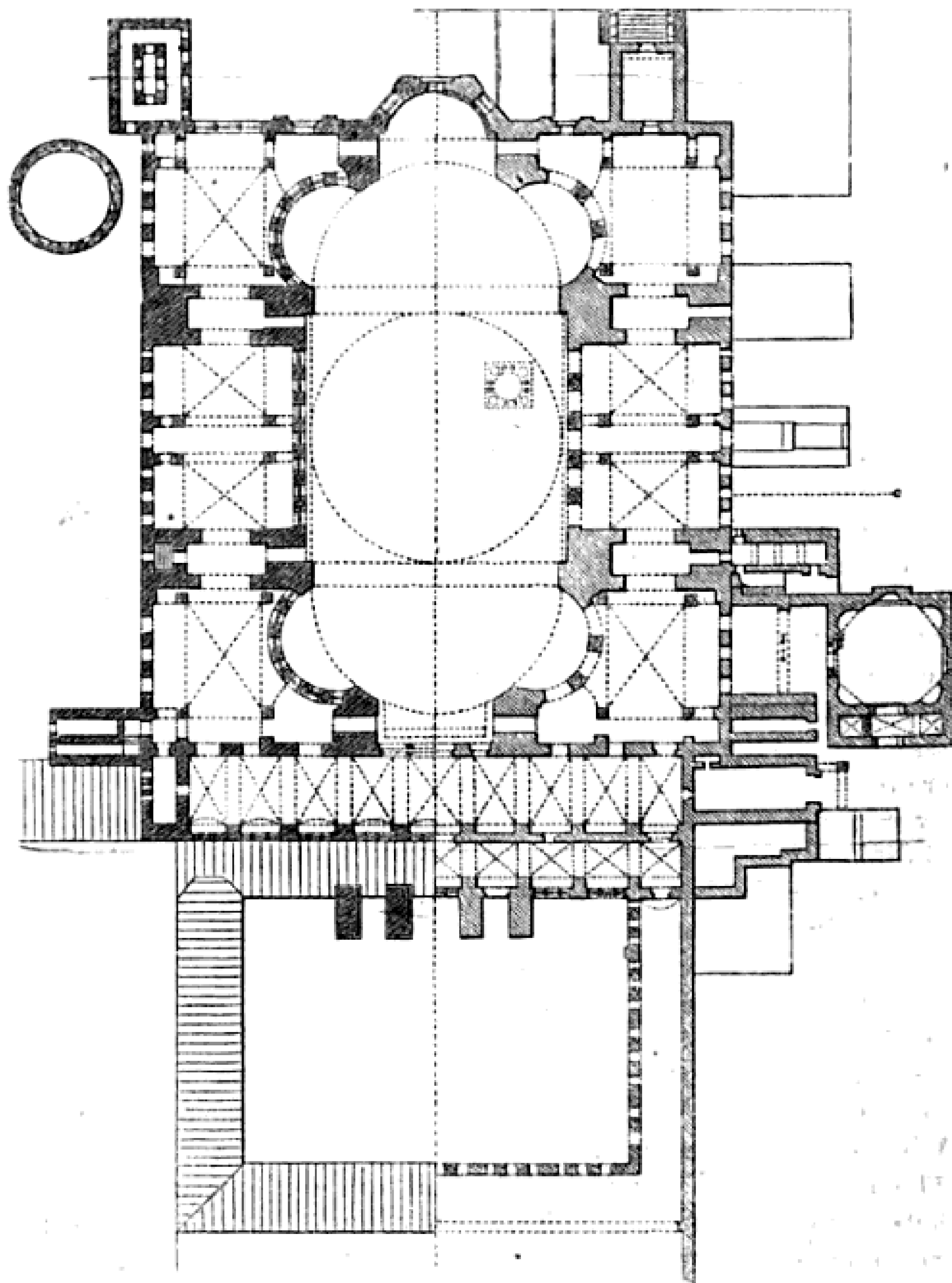
The advantages to be gained by this mode of construction were obvious, and enabled the architect to extend his building in any direction he chose, without contracting any of its dimensions. It gave him the power of adding domes or semi-domes of any required size or form, so as to carry up the eye by degrees to the great dome, and by contrast of dimensions to give that apparent size which is one of the great objects kept in view by all true architects.

It was the working out of this system of construction which pro-

duced the church of Sta. Sophia,[1] by far the largest and finest specimen of Byzantine architecture.

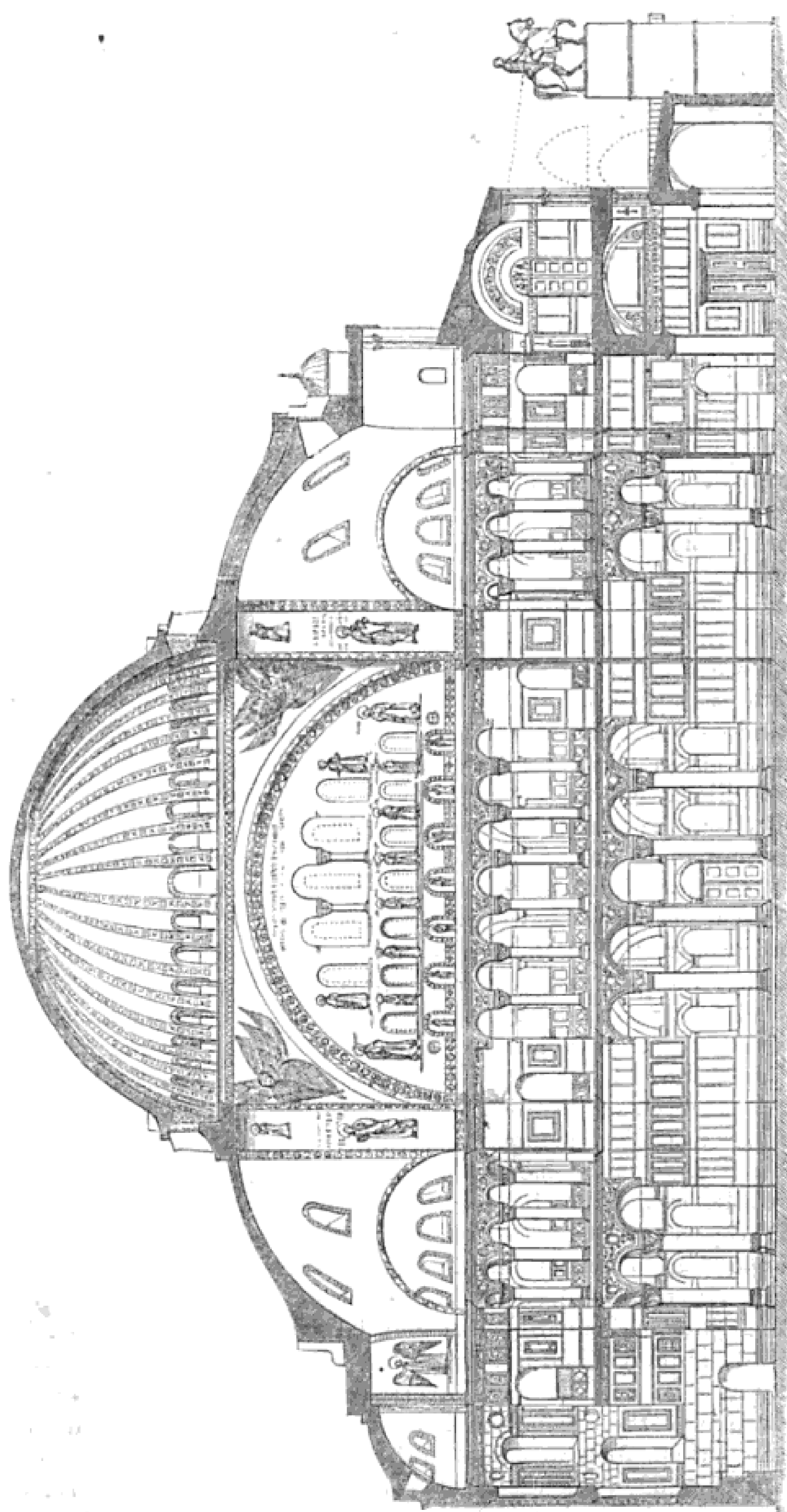
Sta. Sophia.

This church was commenced by Justinian in the tenth year of his reign, on the ruins of one erected by Constantine, but destroyed by fire in that year. It was completed within six years from the date of its foundation, but 20 years afterwards was much injured by an earth-



780. Upper Story and Ground Floor. Plan of Sta. Sophia, 100 ft. to 1 in.

[1] All the information regarding Sta. Sophia, and all the illustrations, are taken from a splendid monography of this cathedral by W. Salzenburg, published at Berlin in 1854.



791. Section of Sta. Sophia at Constantinople. Scale 50 ft. to 1 in.

quake. In the course of the restoration which ensued several alterations and additions were made, but whether the *exo-narthex* or outer porch was added then, or at a later period, is by no means clear; it certainly was not part of the original design, but was built at some time during the Christian occupation of the city. Excluding this and other minor excrescences, the church is externally a parallelogram of 237 ft. by 284, and covers about 67,000 square ft. of ground, which is nearly the average space occupied by a first-class French or English mediæval cathedral.

Externally it possesses absolutely no architectural beauty, at least in its present state. When first erected it may have been adorned, or intended to be adorned, with coloured marbles, or tiles, or mosaics, thus making up in richness of colour for its deficiency of form. If such ornaments were ever applied to this building they have perished, and subsequent additions and mechanical contrivances to remedy constructive defects have so altered and concealed whatever of design it may originally have possessed, that we must now regard its external appearance at least as a failure. Internally the contrary is the case. The narthex consists of two very beautiful halls, one over the other, 202 ft. in length internally, by about 26 in width. The church itself is nearly an exact square of 229 ft. north and south by 243 ft. from east to west, surmounted in the centre by a great dome, 107 ft. in diameter, rising to a height of 182 ft. from the floor of the church. East and west of this are two semi-domes of the same diameter. These are again cut into, each by three smaller semi-domes, supported by two tiers of pillars. On the lower range of these stands a gallery, extending all round the church except at the apse. To the north and south instead of the semi-domes the galleries are surmounted by a wall, pierced with 12 small windows, the whole forming a screen on these sides, so that the church, instead of showing a Greek cross, as is usually asserted, is virtually contracted in the centre, and in plan more the shape of an hour-glass, the galleries with their supports parting the central from the surrounding parts with a more distinct separation than that of the side aisles in a Gothic church. The narthexes, the galleries, and the apse, are lighted by two ranges of windows, which extend all round the church. The central nave is lighted by one great western window and a number of smaller openings pierced in all the domes just above the springing. The great dome has 40 windows at its springing; the greater and smaller semi-domes have only 5 each. It is by no means clear when this practice of piercing windows in the dome was first introduced; this appearing to be the earliest example known of such a mode of lighting. It could hardly have been used here to such an extent without some previous experiments; but be this as it may, it excited universal admiration, and few Byzantine domes were afterwards erected without its adoption. It may, nevertheless, be disputed whether the introduction of these windows here was expedient or not; it gives lightness but apparent weakness to the construction, and a large combination of windows in the lunettes over the north and south screens would, it seems, have answered all the purpose, with better constructive and probably with better artistic effect.

From the above description it will be perceived that the dome of Sta. Sophia is nearly of the same diameter as that of St. Paul's at London, but is 33 ft. less in height internally. This is altogether in favour of Sta. Sophia's, as the dome of St. Paul's has too much the appearance of a great disproportioned hole in the roof. The lowness of the Byzantine example gives the effect of great space, which is materially aided by the two semi-domes which abut on it, and the eye is gradually carried downward through three series of domes of different dimensions till it meets the smaller architectural piers and the supporting pillars of the galleries. The smallness of these objects and their details gives immense value to the larger expanse of the roof. We find in fact here all the great principles of design which guided the mediæval architects in their interiors, and were known also to the ancient Greeks, who used in preference two tiers of columns, even in their limited interiors. The dome itself is only about two thirds of the size of that of the Pantheon at Rome, but the whole unsupported expanse of the central aisle is nearly double that of the Roman temple, and owing to the judicious manner in which the parts are used, is in appearance far more than double: indeed it may be safely asserted that, considered as an interior, no edifice erected before its time shows so much beauty or propriety of design as this, and it is very questionable whether anything in the middle ages surpassed it, though it is difficult to institute a comparison between forms so totally different. It is certain that no domical building of modern times can at all approach Sta. Sophia's, either for appropriateness or beauty. If we regard it with a view to the purposes of Protestant worship, it affords an infinitely better model for imitation than anything our own mediæval architects ever produced. It must be borne in mind also that it depended, internally at least, almost wholly on colour for the effect of its details, and these being in the published views of it generally drawn in outline make it look poor and lean. The pillars are all of variously coloured marbles, which are also used to line and cover the lower part of all the walls except where they are adorned with mosaics, and the whole of the roofs, both of the nave and aisles, were, and indeed are, covered with gold and mosaics of the utmost richness and beauty, so that the same effect which is produced at St. Mark's, Venice, with inferior skill on a smaller scale, is here to be found in the perfection of the best age of that peculiarly Byzantine art. Taken altogether there is no building erected during the first thirteen centuries after the Christian æra which, as an interior, is either so beautiful or so worthy of attentive study as this, and it is consequently much to be regretted that it has been so difficult to obtain access to it. Were it better known, its beauties could not fail to be appreciated.

As before remarked, we are still without the materials requisite to enable us to trace distinctly the various steps by which the classical details gradually took the form we find prevalent in the buildings of the age of Justinian.

There is apparently one, and only one Romanesque church now remaining in Constantinople, that of St. John, illustrated in Salzenburg's work, but which reached me too late to notice it in its proper place.

It is a simple basilica, 125 ft. long by 85 in width externally. It is divided internally into three aisles by ranges of columns supporting galleries. These are of the Corinthian order as well as those of the narthex, and show the exact extent to which the transition had proceeded at the age when this church was erected (A.D. 463).



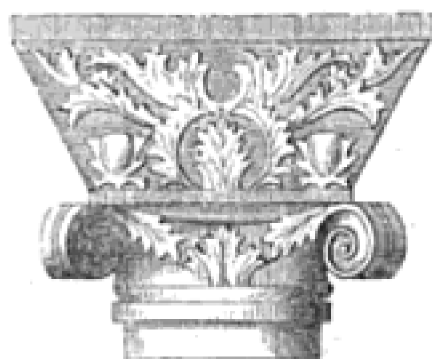
782. Pillar in Church of St. John, Constantinople.

Standing as it does half-way between the buildings of Constantine at Jerusalem and those of Justinian at Constantinople, there is just such a change as we should expect.

If we turn to the two woodcuts, Nos. 405 and 406, we shall observe that the orders shown in those two examples are much more classical than that of the church of St. John (woodcut No. 782).

On the other hand the latter differs much more considerably from the four examples quoted below from the buildings of Justinian, the progress having been rapid when once the style became independent, though the classical feeling was probably retained in the capital longer than in the provinces, where its influence was naturally less enduring.

From this we pass at once to the church of S. Sergius and Bacchus, where the capitals and details, though based on the more purely classical types, still differ from them so much that they may be considered as the first examples of the new rather than the last of the expiring style; and so rapid was the change, that before Sta. Sophia was



783. Capital from Sergius and Bacchus. From Lenoir.



784. Entablature from Sergius and Bacchus. From Lenoir.

completed, even that trace of classicality had almost entirely disappeared. The representation (woodcut No. 783) of a capital in the church of Sergius and Bacchus, for instance, shows an Ionic capital with a fragment of an architrave over it, but the two so grown together, if the expression is allowable, as to make one of those square capitals afterwards much used to support the springing of arches. In the time of Constantine, as for instance in the so-called mosque of Omar (woodcut No. 406), we find the architrave used as a block, but the capital below it is classical, and the horizontal entablature still runs from pillar to pillar. In Justinian's time the arch generally springs directly from the column, and neither in Sta. Sophia, nor in the churches at Ravenna, is the horizontal entablature to be found. Sometimes a cornice of somewhat classical form is supported by piers, or runs round the walls of the church, or as the front of the gallery floor; but even then it is widely different from anything to be found in classical times.

The perfected Byzantine style is better shown in the next two examples from Sta. Sophia. Woodcut No. 785 shows the capital and one of the spandrils of the lower tier of arches on each side of the nave, No. 786 the corresponding parts of the upper tier. The details of both are of great beauty, though the forms of the capitals are not so pleasing in outline as those which either preceded or followed.



785. Lower Order of the Church of Sta. Sophia. From Salzenburg.

The lower order illustrates very perfectly the great characteristic of Byzantine ornament as compared with the classical, inasmuch as the whole pattern is here *incised* which in classical times was *applied*. If we take, for instance, a Roman Corinthian capital, the acanthus leaves are so distinctly applied that they might be cut away without injury even in appearance to the constructive propriety of the bell-shaped cap; the same is true of the necking of the Greek Ionic, and of all the ornaments of the entablatures of all the orders; and generally throughout the middle ages in the West the same system was pursued. In the East this was never the case after the final separation of the styles. The surface always remained flat, and the pattern was cut into it without breaking its outline.



786. Upper Order of Sta. Sophia. From Salzenburg.

In the lower order at Sta. Sophia it is slightly moulded, afterwards in the upper it is filled in, so as to become a sort of mosaic, and there can be no doubt that the practice arose from the constant use of mosaics, and from the necessity of bringing the other parts of the decoration into harmony with them. Shadow and relief are appropriate and pleasing with fresco painting, but flatness is the very essence of mosaic, and the rich projecting carved work of a Corinthian order would not only have looked strangely out of place here, but would have exaggerated this flatness to a painful extent.

After Justinian's time every classical trace disappears, and every part of the style adapts itself to the new exigencies.

Including the churches of Sta. Sophia and St. Sergius and Bacchus, there still remain in Constantinople at least twelve edifices which are known to have been erected by the Christians as churches, though now generally converted into mosques or appropriated to secular purposes. Of those which have been illustrated or described, one slightly more modern than Sta. Sophia is that of Sta. Irene, in the seraglio, now used as an arsenal. Next to this were the churches of Theotocos and Moné tes Koras, of the 10th or 11th century, and that of the Pantocrator, which is probably still more modern.

One of the most remarkable peculiarities of these churches is the attempt to allow the tunnel-vault to retain its form externally, as the dome had been allowed to do. A dome, however, without some central ornament, such as the Saracens always applied, or a great central opening, like that of the Pantheon, if a mere hemisphere, is, and always must be, an unpleasing form, and so with a vault; the want of a ridge of some sort is, not only constructively but artistically, a fault. The Romans apparently covered their vaults with plates of bronze, which were too precious to be allowed to remain, and when removed the wet perco-

lated through and the vault fell in. It was this difficulty, as has been already explained (p. 598), that first led to the introduction of the pointed arch in the south of France. The pure Byzantine architects, however, never adopted the pointed arch in any of its forms, and as Constantinople from its foundation to the present day has always been more subject to conflagrations than perhaps any city in the world, they tried to dispense wholly with wood in their ornamental constructions, and adopted therefore the simple round arch for the *extrados* or outer covering as well as for the *intrados* or inner surface of their arches; this is well shown in the elevation (woodcut No. 787) of the façade of the church called Moné tes Koras, or House of the Virgin. Here the back of the arches is left quite plain and without relief. This is certainly not pleasing, and unless the exterior of the vault is protected by a covering of metal, it is hardly possible to make it permanently water-tight. The only important church in western Europe roofed in this manner is St. Mark's at Venice, where the exterior of the vault was originally treated in the way just described, though in after times the nakedness of the form was disguised by Gothic tracery. This woodcut also illustrates another peculiarity that was adopted almost immediately after the completion of Sta. Sophia, of giving the lower part of the dome, externally, a perpendicular form to the height of the windows, and consequently making the curved part less than a hemisphere: subsequently the height of the drum was increased and the dome placed upon it, as in modern Italian churches; but this could only be done in domes of small dimensions, more deserving, perhaps, the name of cupolas.



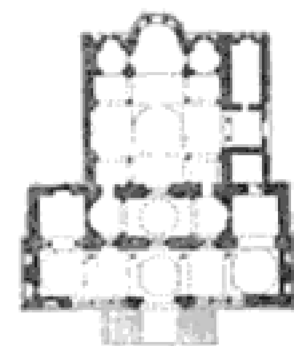
787. Church of Moné tes Koras. From Lenoir. No scale.

The smallness of all the domes of the Byzantine churches after the age of Justinian was no doubt in a great measure owing to the constructive difficulty, pointed out above, of placing a dome on pendentives. Another cause was the decline of the empire, not only in wealth and power, but in all the higher aspirations and aims, and the consequent want of energy or ability to carry the style farther than it had reached in the time of Justinian, or even to attempt to equal his great work.

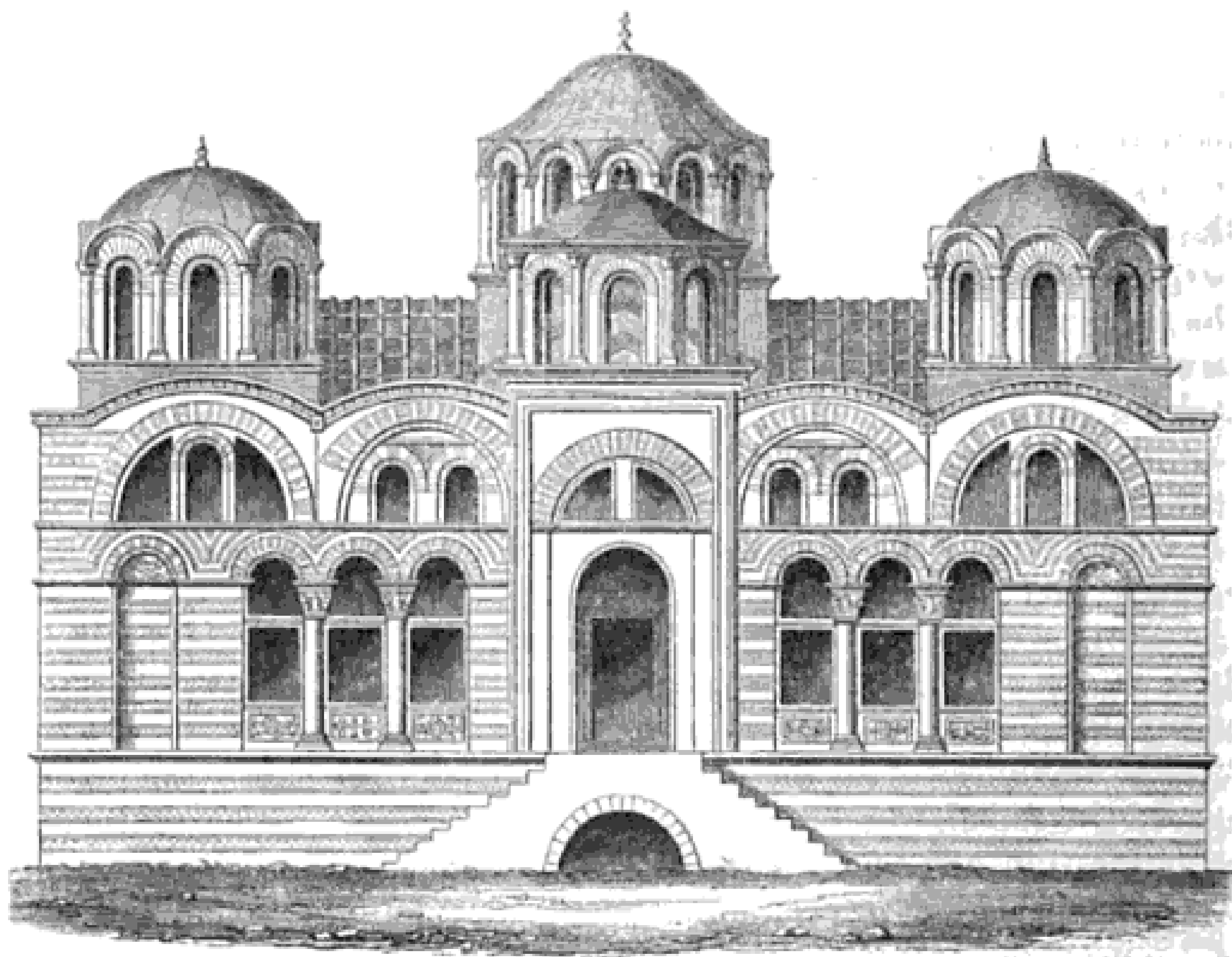
Among the churches of Constantinople the most complete is that called the Theotocos (Mother of God), erected apparently in the 10th or 11th century, and exhibiting Byzantine architecture in all its completeness, wholly emancipated from all classical traditions and worked into as complete a style as the Gothic of the same age.

Like all the Byzantine churches erected after the age of Justinian,

it is a very small edifice. As will be seen from the plan (woodcut No. 788), internally it is only 37 ft. by 45, and although its inner and outer narthexes add considerably to its dimensions, it still would be but a small parish church in England. Its façade is rich and varied in design, and the cupolas group pleasingly together. The arrangement too of the east end (woodcut No. 789) shows a pleasing variety of outline and detail, which redeems, to a great extent, the smallness of its size. Among other peculiarities it shows those curious angular sinkings with which the Byzantines marked their apses externally, instead of allowing them to project beyond the line of the roof. All this, however, is easily accomplished where the principal dome is barely 14 ft. in diameter, and the other parts proportionately so small as to cause no constructive difficulties. There is nothing here that could not be practised on a larger scale, and that would not be improved by being so used.



788. Plan of the Theotocos. Scale 100 ft. to 1 in.



789. Elevation of Church of Theotocos. From Lenoir, Architecture Monastique. Enlarged scale.

The Pantocrator is a triple church, or rather three churches placed side by side, the central one of which was apparently meant as a sepulchral building by Alexius Comnenus or his empress Irene, who seem to have been the founders of it in the beginning of the 12th century. This arrangement, it will be recollected, is the same as that of the church at Nisibin (see p. 524), and may have been more usual in the East than we are at present aware of.

It is probable that the other churches of Constantinople are neither remarkable for the size nor the beauty of their decorations, but every fragment of this style is so interesting that it is much to be hoped that with the present increased opportunities of examination our knowledge of its remains may receive important accessions.

SALONICA.

With the single exception of Constantinople, there is perhaps no place in the ancient Greek empire which contains so many or such interesting churches as the city of Salonica, the ancient Thessalonica. M. Texier enumerates[1] no less than 37 of these as now existing, either in ruins or converted into mosques, and many of them still retain not only their original architectural form, but even their mosaic decorations.

Of these the oldest and the most interesting is the circular church of St. George. In plan it almost perfectly resembles the Tomb of Helena (woodcut No. 282), or those in the Spina of Nero's Circus (woodcut No. 366), but it is very much larger than either, being 124 ft. in diameter over all. Internally the walls, which are 22 ft. in thickness, are hollowed out into 8 great niches, one of which serves for the entrance, and opposite to this is a well-defined choir with its apse, evidently a part of the original arrangement. The central part is surmounted by a dome 80 ft. in diameter, which like the lower part is divided into 8 compartments, each containing a large mosaic painting of a saint with his name written in Greek characters, and the name of the month over which he presided and in which he ought specially to be worshipped. Behind each of these is a splendid architectural composition, the details of which forcibly recall the mural paintings of Pompeii and the compositions of the rock-cut tombs of Petra, such as the Khasnè (woodcut No. 288). The date of this church is not exactly known, but from its details we may safely assert that it is not so early as the mosque of Omar at Jerusalem, nor so late as the church of Sergius and Bacchus at Constantinople: its probable date is about the year 400 A.D.

Next in interest and importance is a great five-aisled basilica dedicated to St. Demetrius, the patron saint of the city. It was originally built in 597, but destroyed by fire in 690, and rebuilt or repaired as we now find it immediately after that date. Many of the details of the stone-work belong to the earlier period, and resemble very much those of the church of Sergius and Bacchus at Constantinople. The central aisle is 40 ft. in width, the side-aisles 16 ft. each. The pillars of these support a gallery running the whole length of the church. It possesses a transept like the Roman basilicas, and a simple apse terminates the central aisle. There are also some chapels and buildings attached which add very much to the interest of the whole.

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[1] The only account of these churches which has been published is in Texier's Description de l'Asie Mineure, vol. iii. There are no plates attached to this, but through the kindness of the author I have had access to his original drawings.

These two churches, both by their style and arrangements, might more properly be called Romanesque than Byzantine, but the limits between the two styles are so imperfectly defined that we must wait for further information before attempting to make a classification.

There is another three-aisled basilica, now called Eski Djouma by the Moslems. It has an inner and outer narthex, each about 23 ft. in width. Internally the church is 137 ft. long by 50 in width, and a gallery runs over the side-aisles.

The church of Agia Sophia is built in the form of a Greek cross, and surmounted by a cupola 33 ft. in diameter. The choir is 24 ft. in length, and this, with the vault of the church, is ornamented with a very curious and interesting painting of the Transfiguration, dating, with the church, probably from the 7th or 8th century.

The Apostles' church, of about the same date, is square in plan, and with the usual accompaniment of two narthexes.

The church of St. Bardias was constructed 987, and very much resembles the contemporary church of Moné tes Koras at Constantinople (woodcut No. 787). One of the most modern apparently is that of St. Elie, erected in 1012 A.D.

These are perhaps the principal, but they are only a few of the monuments of this city, and which, if fully illustrated, would fill up a great gap in our illustrations. Indeed the number of unnoticed and unedited monuments in this one place justifies more and more the belief that the materials do still exist for restoring entirely the records of this last chapter in our history.

Greece.

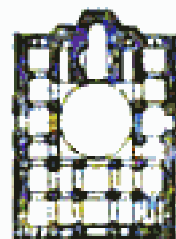
There are no doubt numberless churches in the towns and villages of this district which would fill up all the gaps in the history of Byzantine architecture. At Mount Athos there are at least 100 buildings of various sorts and of all ages, but all these are as yet architecturally unknown, being only described in words that convey the impressions of their authors, but not the forms of the buildings. Remains of great interest may probably still exist in those towns that were of great importance in the early ages of Christianity; and though we may hope at some future period that these may be added to our illustrations of art, at present we must pass them by to speak of the Christian churches of Greece, which are better known.

Of these one of the oldest and most elegant, though one of the smallest, is that formerly known as the Catholicon or Cathedral of Athens. As a cathedral its dimensions are, to our notions, ridiculously small, its extreme length and breadth being only 40 feet by 25. It is interesting as being probably anterior to the age of Justinian, and perhaps the oldest Greek church now in existence. There are so many ancient fragments mixed up in its construction, and so much of the ancient artistic feeling of Athens pervades its forms, that we may be deceived in judging of its age from its style, though that is the only evidence we can reason from. It is almost the only Greek church that has sculptured instead of painted decorations externally, and the



790. Cathedral at Athens. From Gailhabaud.

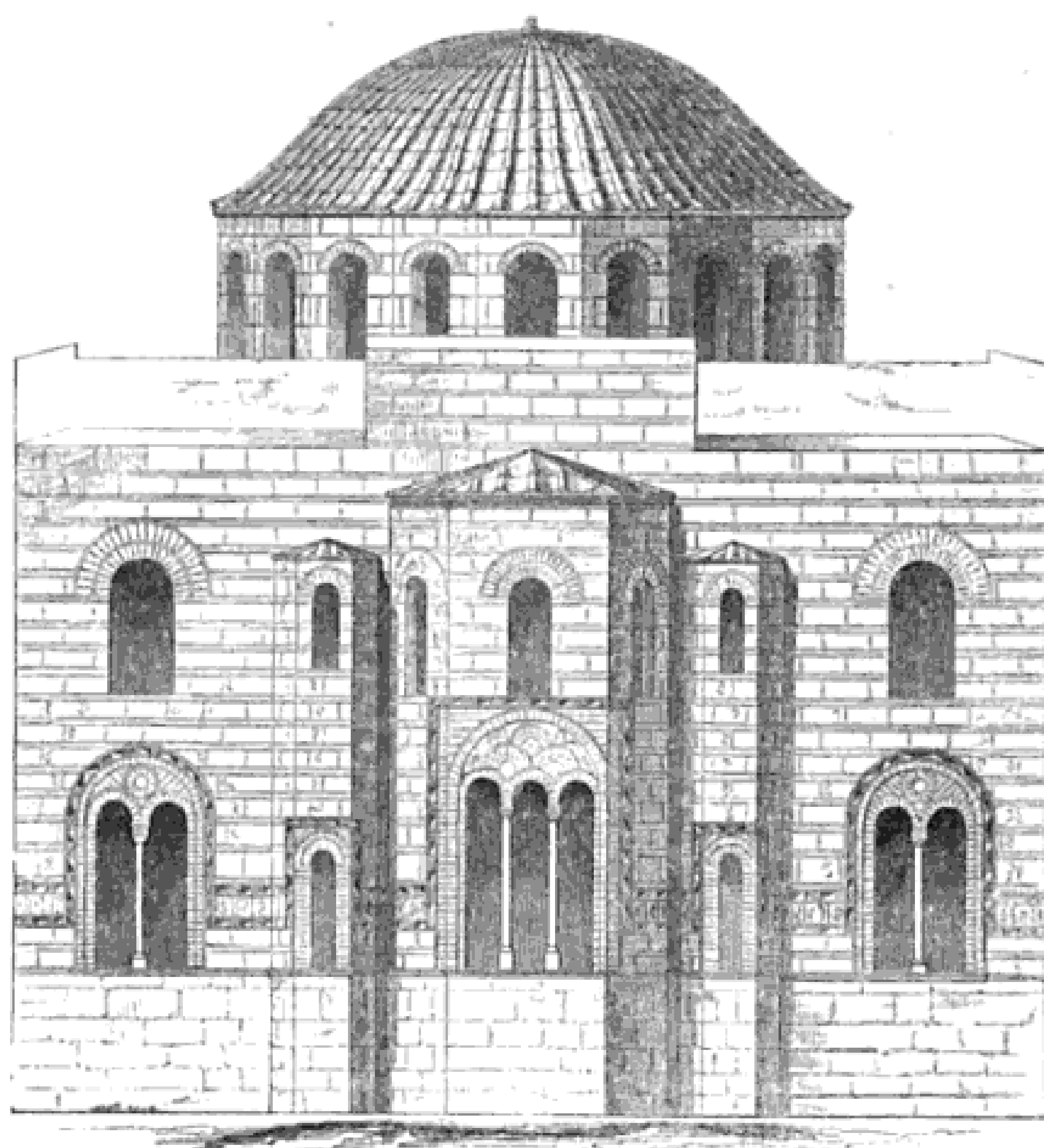
depth of its cornices and the structure of its roof are reminiscences of a classical age very rare in Byzantine architecture. This church is perhaps the most profusely decorated externally of all Byzantine churches, which are plainer in this respect than any others. We are not surprised at this in Constantinople itself, where the interior was the principal object, and therefore superbly decorated; but the case is different in Greece, where both in Pagan and in Christian times the cells or interiors of the temples are extremely small, and where the worship was almost wholly external, consisting of processions or ceremonious fêtes in the open air. In these countries the use of the Basilica, connected as it was with the republican idea of the people assembled within the building, was almost wholly unknown. Still, however small the Greek churches might be, and however incapable of containing a large congregation, it is nevertheless the case that all the decoration is confined to the painting and mosaics of the interior, while the exterior (though originally painted also) is left in comparative insignificance, depending on its domes and general outline for any effect it may produce.



791. Plan of Panagia Lycodemo. Scale 100 ft. to 1 in.

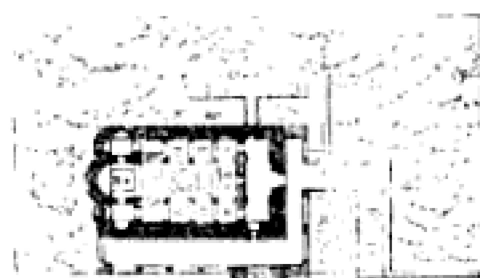
The largest and finest of the Athenian churches is that of St. Nicodemus (Panagia Lycodemo), but even its size is very insignificant, its extreme breadth being only 45 feet and its length 62, and the dome, which is supported on 8 piers, 21 feet in diameter. Still the arrangement of the building internally is such that considerable architectural effect is obtained with even these small dimensions, and the points of support are so proportioned to the mass as to give it a very

monumental character: the exterior is also pleasing, though the absence of a cornice gives it an unfinished appearance, and the outline of the roof, except the dome, is not seen. The result of this part is certainly unsatisfactory. It may be taken as a type, both as to style and dimensions, of several hundred buildings erected for the purposes of the Greek church during the middle ages, before the Western style began to react upon the architecture of the East.

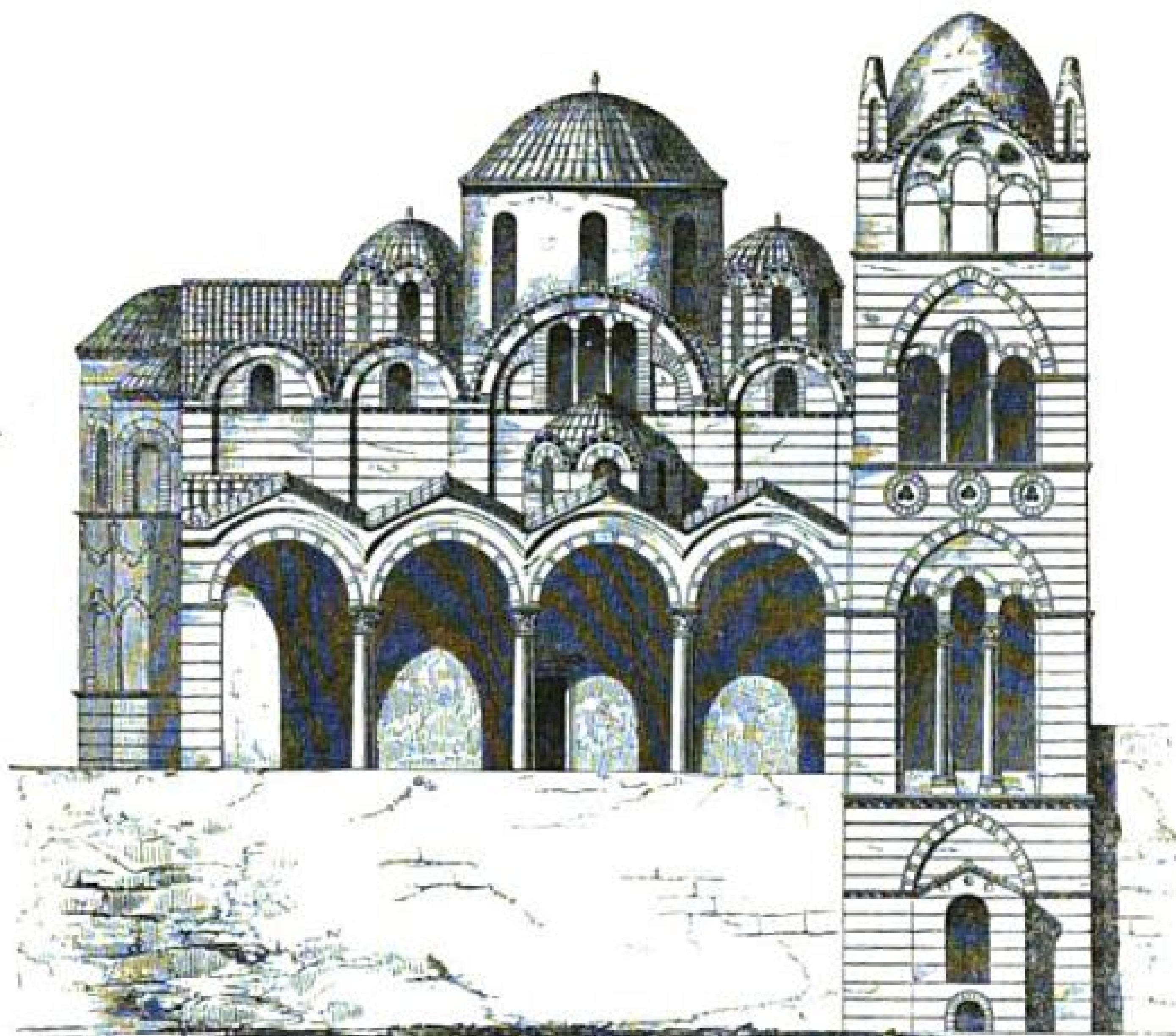


792. Church of Panagia Lycodemo. From A. Lenoir. Enlarged scale.

Of a somewhat later age and different style is the church of the Virgin at Misitra in the Peloponnesus, the ancient Sparta. Its dimensions are 56 feet by 43. It possesses, besides the orthodox porch, an open lateral arcade and a belfry, in both which peculiarities it resembles the churches of Sicily more than those farther North. Indeed it is questionable whether at least one of the styles of building in Sicily in the 11th and 12th centuries would not be more properly called Byzantine or Greek than Gothic. At all events, many Sicilian churches display so great a similarity to those of Greece that it is impossible to overlook the connexion. It is at the same time evident that of the two the Eastern was the older and influencing style.



793. Plan of Church at Misitra. Scale 100 ft. to 1 in.

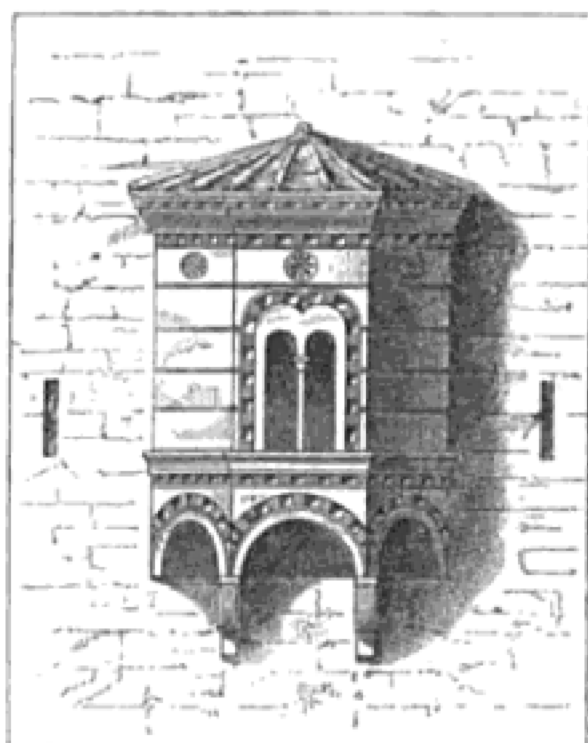


794. Church at Misitra. From Cauchaud, Eglises Byzantines en Grèce. Enlarged scale.

Where arcades are used externally in these Greek churches, they are generally supported by pillars of somewhat classical look crowned by capitals of the square foliaged form, used everywhere to support arches in the early styles all over Europe, and the windows, when divided, take merely the form of diminutive arcades. The Byzantines never attained to tracery; all their early windows are simple, round headed openings. These afterwards were grouped together in threes and fives, and as in the Gothic style, when these could be put under one discharging arch,the pier was attenuated till it became almost a mullion, but it still always supported a constructive arch, and these seem never to have had a tendency to run into interlacing forms like the Gothic. The universal employment of mural painting in Byzantine churches, and the consequent exclusion of painted glass, rendered the use of such large windows as the Gothic architects employed quite inadmissible; and in such a climate very much smaller openings sufficed to admit all the light that was required. Thus tracery would in fact have been an absurdity. The Byzantine architects sought to ornament their windows externally by the employment of tiles or colours disposed in various patterns, so as to produce a very pleasing effect, as may be seen from the woodcut (No. 792) illustrating the apse of the Panagia Lycodemo at Athens, and other specimens quoted above.

Occasionally we find in these churches projecting porches or bal-

conies and *machicolations*, which give great relief to the general flatness of their walls. These features are all marked with that elegance so peculiar to the East, and more especially to a people descended from the ancient Greeks, and speaking their language in considerable purity. Sometimes, too, even a subordinate apse is supported on a bracket-like balcony, so as to form a very pleasing object, as in the specimen from Misitra shown in woodcut No. 795.



795. Apse from Misitra. From Cauchaud.

On the whole the Byzantine style may be said to be characterised by considerable elegance, with occasional combinations of a superior order, but after the time of Justinian the country was too deficient in unity or science to attempt anything either great or good, and too poor to aspire to grandeur, so that this has no claim to rank among the great styles of the earth, except indeed through the buildings of Justinian. From his time the history of this art is a history of decline, like that of the Eastern Empire itself and of Greece, down to the final extinction at once of the empire and of the style under the successive conquests by the Venetians and by the Turks. The only special claim which the Byzantine style makes upon our sympathies or attention is that of being the direct descendant of Greek and Roman art. As such, it forms a connecting link between the past and present which must not be overlooked, and in itself it has sufficient merit to reward the student who shall apply himself to its elucidation.

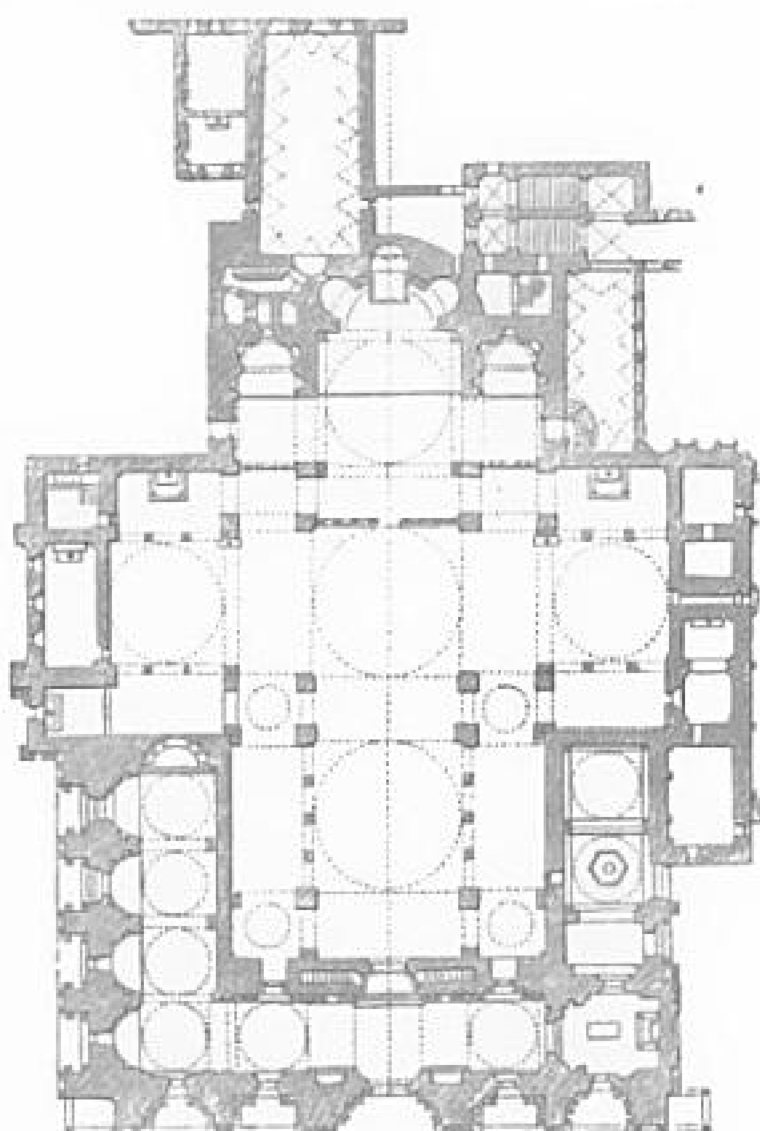
St. Mark's, Venice.

The celebrated church of St. Mark's at Venice is one of those exceptional buildings which it is most difficult to classify correctly. From its locality and size it ought to belong either to the late Romanesque or early Gothic style, but it certainly cannot be ascribed to the former, and still more clearly must it be admitted that it has no affinity with the other. The fact seems to be, that at the period at which it was erected Venice belonged much more to the Eastern than to the Western Empire, though situated just within the boundary that is generally supposed to mark the limits of the Gothic world. Feudality never was established within the territories of the republic; all her relations were with the East, and her great national cathedral is a fair reflex of the fact. Not only is its design purely Byzantine, but all its decorations belong to the same school, and are unlike anything found in any other church of the West.

The foundations of the church were laid in the year 977, and the building seems to have been completed nearly a century afterwards, or

in the year 1071. The mosaics and interior decorations occupied 10, some say 20 years more, so that it was not dedicated till the year 1085 or 1094.

The building then completed was probably only the cross surmounted by the 5 domes. The porticos, which surround three sides of the nave, were probably added afterwards, though within the limits of the next century. The upper sides of the vaults were at this age left plain, without outer covering or ornament, like those of the Moné tes Koras (woodcut No. 787). The ogee canopies which now surmount them, the foliage and pinnacles between them, all belong to the florid Italian Gothic of the 14th century. These details, although not quite appropriate to the style, are beautiful, not only from the exquisite taste with which they are executed, but also as relieving and adorning the plainness of the outline of the façade to which they are attached.


796. Plan of St. Mark's, Venice.

The dimensions of the church internally are 205 ft. from east to west by 164 ft. at the transepts. Externally these dimensions are 260 and 215 ft., and it covers 46,000 ft., so that, although of respectable dimensions, it cannot be called a large church.

The great peculiarity of its design, as shown in the plan (woodcut No. 796), is that, like St. Front, Perigeux (woodcut No. 486), it has 5 equal sized cupolas, disposed in the form of a cross, and resting on broad arches which run back to the walls; but to prevent the squareness of the church from making it look either too short or too low, the central aisle is circumscribed with screens of columns which have no constructive use, and are employed merely for the purpose of decoration. They represent the screens which support the galleries at Sta. Sophia, but with this difference, that there they are indispensable parts of the construction.

The great glory of St. Mark's internally is the truly Byzantine profusion of gold mosaics which cover every part of the walls above the height of the capitals of the columns, and are spread over every part of the vaults and domes, being in fact the real and essential decoration of the church, to which the architecture is entirely subordinate.

Externally its great beauty consists in the profusion of marble columns which surround and fill all the front and lateral porches. Like

those in the interior they have no constructive office to fulfil, but they are in themselves rich and beautiful, and are most picturesquely disposed.



797. Section of St. Mark's, Venice. From Chiese Principale di Europa.

Our knowledge of Byzantine architecture is so limited that we cannot point out with certainty whence the design of this church was taken. The probability is that it was copied from the original church of St. Mark at Alexandria, which was pulled down in the year 829, when St. Mark's body was brought thence to Venice. It is not unlikely that many of the pillars now standing at Venice were at the same time brought from the church at Alexandria. The Venetians, moreover, at that age were far less familiar with Constantinople than with the great Christian capital of Egypt. Consequently it is to that city that we should look for the models from which the design of St. Mark's was taken, were it not that all architectural monuments at Alexandria have perished.

CHAPTER II.

BYZANTINE ARCHITECTURE IN ASIA.

CONTENTS.

Churches at Ancyra — Hierapolis — Other churches — Armenia — Cave Churches — Inkermann — Cathedral at Ani — Decoration — Tombs.

THERE is considerable difficulty in writing an account of the Byzantine architecture in Asia. This does not arise either from the paucity of examples or their insignificance, but because it has happened here even more than in Europe that they have hitherto failed to attract the attention of travellers; and the few examples that have been published have neither been selected as the best suited to illustration, nor have they been accompanied with such discriminating remarks as would make up for the deficiency in materials. We are able to do little more than to point out the leading divisions of the history of the style, and its more remarkable features.

The history divides itself naturally into two great periods:—

The first from the time of Justinian till the rise of the Seljukian dynasties in the 11th century, at which time the troubles of the country and the persecutions of the Christians that preceded the Crusades put a stop to anything like church building in the western parts of Asia.

The second epoch includes about three centuries, the 11th, 12th, and 13th, when the Christians, though oppressed in the west, flourished in Armenia, Georgia, and the provinces about the Caucasus, till their independence and power were destroyed by the irruptions of Gengis Khan and his successors.

As the examples of the first period are, at present at least, almost wholly confined to the western parts of Asia Minor, it will be convenient to speak first of them, and to treat Armenia as a separate architectural province, as its typical style is not found farther west, and, with very few exceptions, no churches exist there belonging to the earlier epoch.

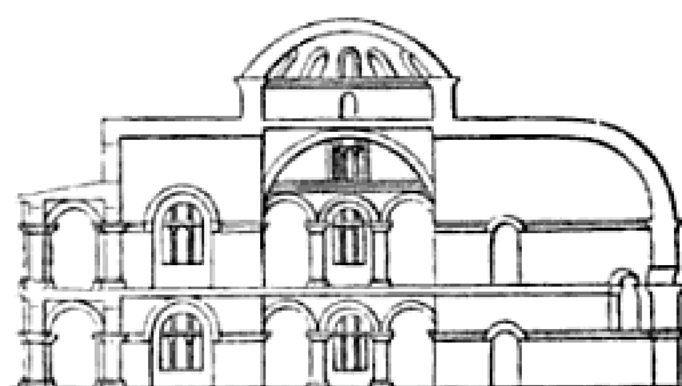
When we consider how early Christianity was adopted in all the principal cities of Asia Minor, and how important the seven churches of Asia became in the very first centuries of our era, it is impossible to avoid the conclusion that large and important edifices were erected for the celebration of Christian rites even before the time of Constantine; and so strongly and so well did men build in those days, that it is almost certain that remains of them must still exist.

But when the conversion of Constantine gave distinction and security to the church, and when the example was set by the mag-

nificent churches which he erected not only at Rome and Constantinople, but at Jerusalem and Antioch, there can be little doubt that all the more important churches must have been extended or rebuilt, and that edifices as splendid as those of the capital must have adorned the greater provincial cities. All that are at present known of these are the few examples quoted in the chapter on Romanesque architecture, to which they properly belong.

Of the churches which belong more properly to the Byzantine style, so far as we can at present ascertain, there are in Asia Minor two types—one a class of cupola churches with a resemblance to Sta. Sophia, and another without cupolas, which look much more like modifications of the Basilica, though very much altered from that original.

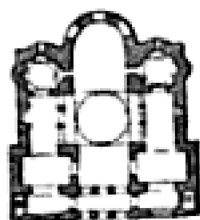
One of the oldest churches of the first class is that of St. Clement at Ancyra, which is probably only slightly more modern than Sta. Sophia; for although the style shows more completeness in this example, and greater freedom from all classical trammels, that is probably more owing to its locality than to its age, being erected in a province where Roman buildings were scarce, and where probably Christian churches had been erected for some time previously.



798. St. Clement, Ancyra. From a drawing by Ed. Falkener.



As will be seen from the plan (woodcut No. 799), its dimensions are small, being only 64 ft. long by 58 ft. in width. In its centre it is crowned by a cupola only 17 ft. in diameter, pierced with eight windows.



799. Church of St. Clement, Ancyra. 100 ft. to 1 in.

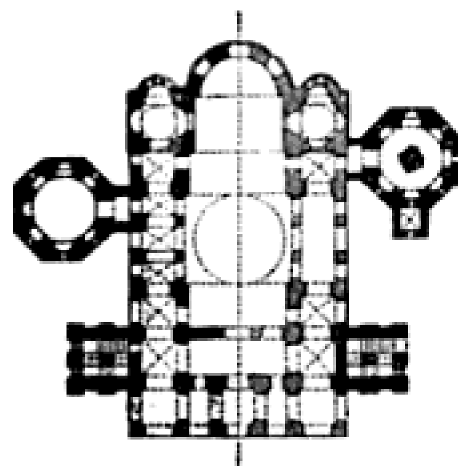
Like almost all the churches of this age it has two narthexes placed one above the other, the upper communicating with a series of broad galleries running all round the church, which are generally supposed to have been appropriated to the female part of the congregation.

It will also be observed that the two circular buildings which were detached at Pergamos (woodcut No. 402) are here incorporated with the design, and look like the rudiments of the triapsal arrangement that was afterwards so frequently adopted.

Another church very similar to this is found at Myra, dedicated to St. Nicholas. It exceeds that of St. Clement in size, and has a double narthex considerably larger in proportion, but so ruined that it is difficult to make out its plan, or to ascertain whether it is a part of the original structure, or added afterwards. The cupola is raised on a drum, and altogether the church has the appearance of being much more modern than that at Ancyra.

A third church of the same class, and better preserved, is found at Trabala in Lycia. It is of the same type as that of St. Clement, and similar in its arrangements to Sta. Sophia, except in the omission of

the semidomes, which seem never to have been adopted in the provinces, and which indeed may be said to be peculiar to that church. Notwithstanding the beauty of this feature, it appears to have remained dormant till revived by the Turks in Constantinople, and there alone.[1]



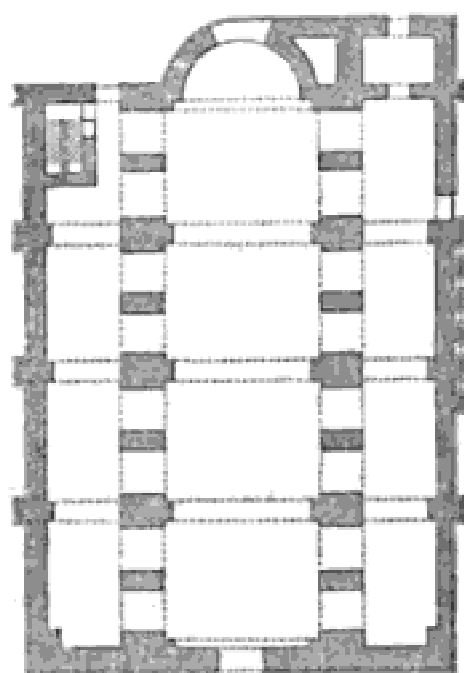
800. Church at Trabala. Scale 100 ft. to 1 in.

In this example there are two detached buildings, either tombs or sacristies, of an octagonal form, which, except in large detached buildings, does not seem to have been so common as the circular till after the time of Justinian.

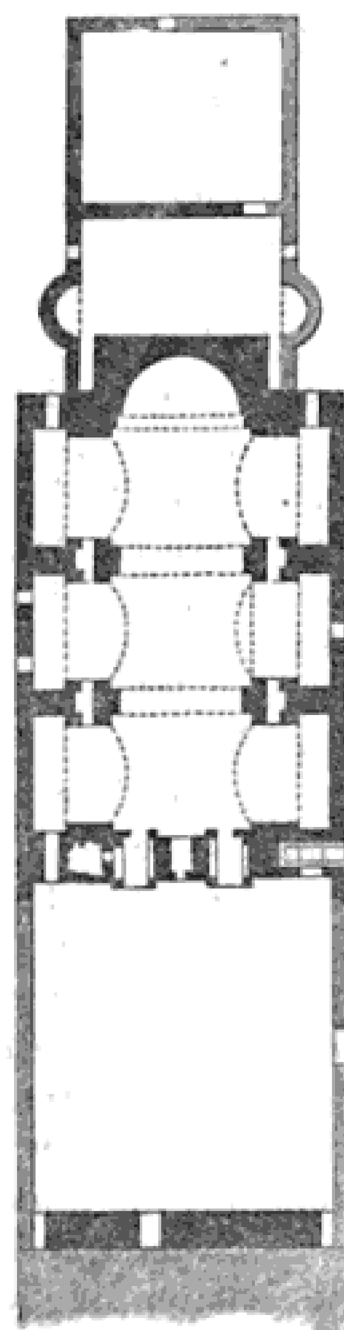
If the second description of churches in Asia Minor are as common as there is reason to believe that they are, this circumstance may force us to modify considerably our usual definition of Byzantine architecture. The buildings in question either are of an age anterior to Justinian, and consequently are Romanesque, or else it is certain that a class of churches very like basilicas, and without cupolas, co-existed with the domical churches in Asia Minor, at least till the decline of the Christian and rise of the Mahometan religion in that country.

My own impression is that they should be classified with the Romanesque, but so little is known of their dates, and so few of their details have been drawn, that it is better to leave the question undecided till more is known, and in the mean time to class them simply according to their locality.

The two finest churches of this class known are found at Hierapolis, on the borders of Phrygia. The largest (shown in plan, woodcut No. 801) is a bold vaulted church in three aisles, 177 ft. long internally by 115 wide; its central aisle being 45·6 ft. between the piers, which are massive in the extreme.



801. Great Church at Hierapolis. Scale 100 ft. to 1 in. E. Falkener del.

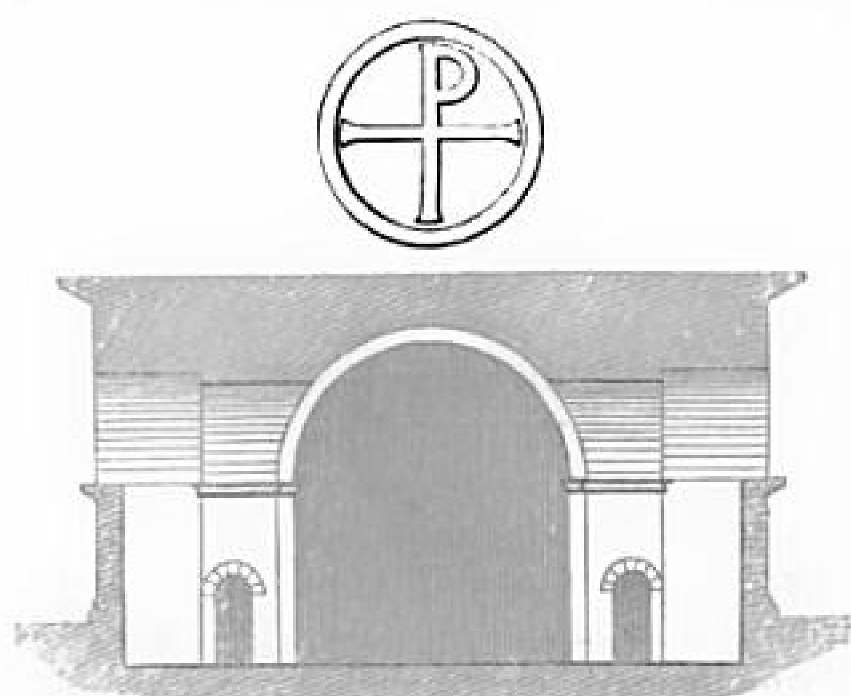


802. Church at Hierapolis. Scale 100 ft. to 1 in. E. F. del.

The other shows more design in its arrangements, and though smaller, being 145 ft. by 89, is of extremely elegant design. As may be seen from the section (woodcut No. 803), the whole construction of

[1] See p. 467.

the church rests on the piers, the side walls being mere screens carried up to the point where the lateral vaulting commences. In this way large semicircular openings are left above these screens, which admit more than a sufficiency of light, but the greater part of them is concealed by the deep recesses formed by the piers. The central vault is 44 ft. wide, while those intersecting it are so much smaller that they do not cut into it to such an extent as to be unpleasing. Altogether this is a very beautiful example of a vaulted basilica, and perhaps among the very oldest buildings of that description. No basilicas in the Romanesque style are vaulted, and there is probably nothing of the kind to be found so complete as this till we arrive at the Gothic age after Charlemagne. This church has every appearance of belonging to an earlier period than that.[1]



803. Section of Great Church at Hierapolis. Scale 50 ft. to 1 in. From a drawing by E. Falkener.

Besides these there is a church at Pinara, 50 ft. by 81 internally, which has still more the character of a basilica, its aisles being divided by pillars which supported a wooden roof. At Ephesus there are remains of a very curious double church, but so ruined that it is difficult to make out its plan. The western church is in plan like those at Ancyra or Trabala, surmounted by a dome 40 ft. in diameter. Behind this on the same alignment is another church, 95 ft. square, exclusive of the apse, divided into three aisles by pillars. It is possible that this may be the older of the two, to which the other was added.

Another interesting group of churches is found at Derbe, three of which have been drawn by Mr. Falkener. They are very small, the largest only 50 ft. by 33. Two of them partake of the basilica form; the third is a small church with cupolas.

The circular form does not seem to be common for detached churches in these provinces. One very handsome church at Hierapolis is circular externally, but its interior is brought by piers into the form of an octagon, which supports, or once supported, a dome 68 ft. in diameter, the internal dimensions of the whole being 101 ft. It seems so constructively beautiful that it probably belongs to the same age as the smaller of the two churches at the same place, described above (woodcut No. 802).

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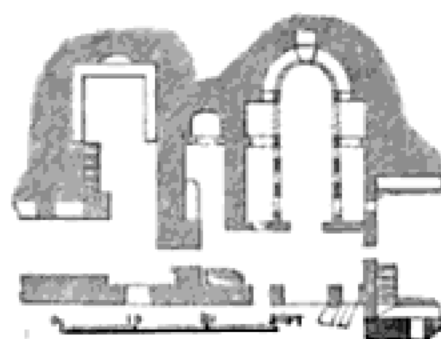
[1] For the last four woodcuts I am indebted to the kindness of my friend Mr. Ed. Falkener, who, having travelled in these countries, has examined and drawn a great number of the churches, and possesses information that goes far to supply the deficiencies we so much lament.

There is another circular church at Derbe of nearly the same dimensions, but probably of more modern date, and a third at Antiphellus, which, judging from the plan, looks more like an erection of the Crusaders than anything belonging to a more ancient period.

It will be impossible to give a connected history of the Byzantine style till the details of these churches are drawn and compared. We may be confident that a complete series of examples can be made out by the assistance of the Christian churches in Constantinople and elsewhere, the dates of which are authentically known.

ARMENIAN STYLE.

The eastern or Armenian province of Byzantine architecture is better known than the western. Still the subject is by no means simple or easy, inasmuch as around the roots of the Caucasus are grouped, and apparently have been from very early times, representatives of all the nations of the earth, who still preserve their individuality, and with it their styles of art, with remarkable tenacity, but which the imperfect data at our command do not enable us to distinguish.



804. Rock-cut Church at Inkermann. From Dubois de Montpereux.

The churches here are so numerous, and being for the greater part still occupied by Christian worshippers are so much more prominent, that it has been impossible for travellers to pass them over, although the ruined and deserted edifices in the Mahometan districts on the more western shores of Asia might easily be overlooked by those not specially occupied with the subject.

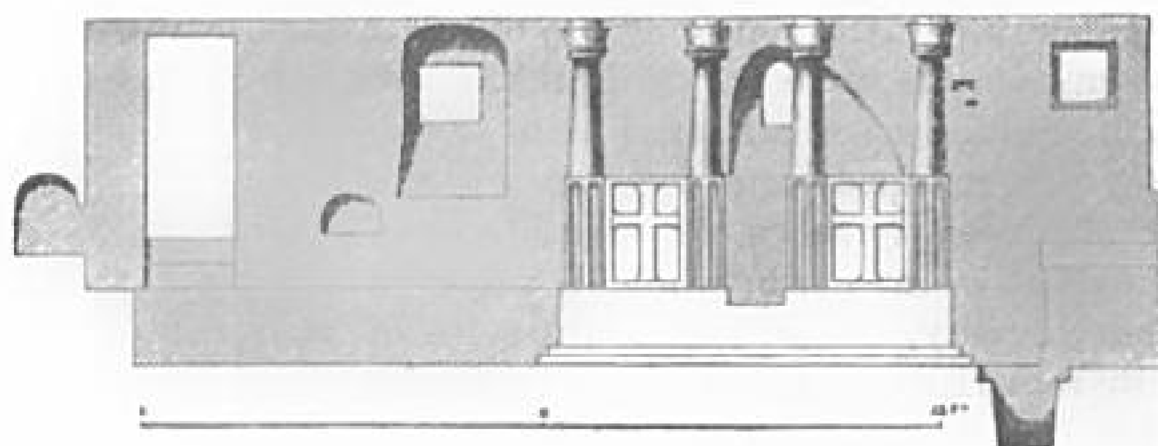


805. View in Church Cave at Inkermann.

The series here commences with a numerous class of rock-cut churches, which are certainly extremely curious as specimens of Christian art; there are, however, between the Caucasus and Cape Chersonese, where Sebastopol now stands, a series of rock-cut cities—not cities of tombs like those of Syria and elsewhere, but dwellings such as those at Bamian and farther to the eastward. Whether these were monasteries or ordinary dwellings is by no means clear, nor is it quite certain that some of them were not tombs. My own impression is that they are all dwellings. Connected

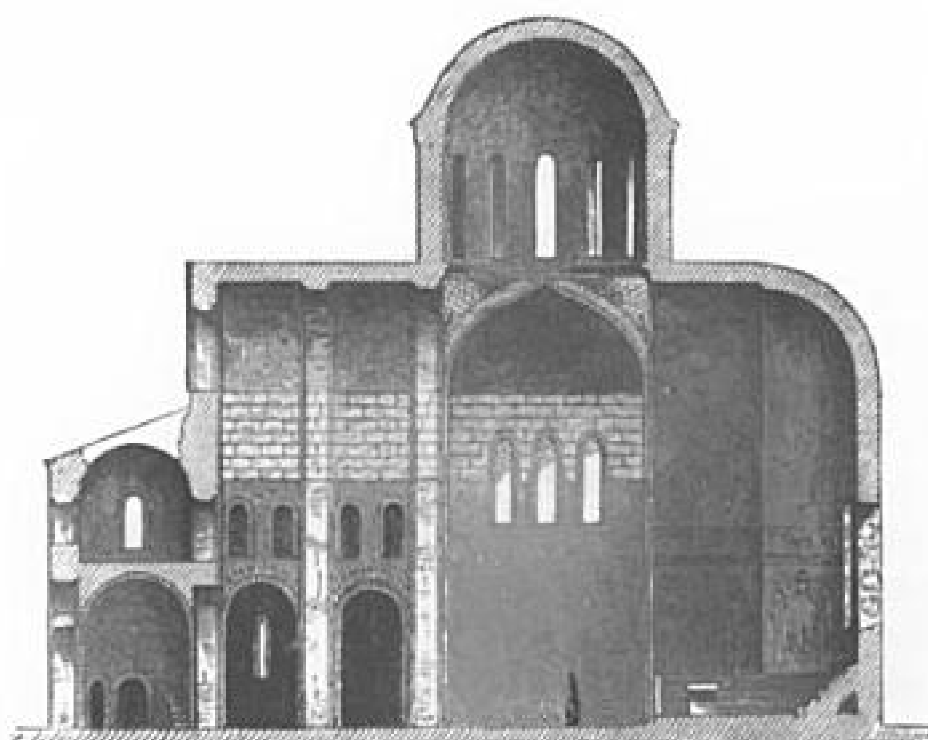
with these was the celebrated city of Panticapea, surrounded by tumuli, which are Etruscan not only in external form and internal construction, but even in the class of ornaments found in them. Most of the vases, like those of Etruria, are of Greek design. In all these points these tumuli would be as appropriate at Tarquinii as here.

Nothing certain is known of the age of the Christian excavations, but they seem always to have belonged to that religion, and are of an early and simple type. Some are square, the roof supported by pillars in the centre; some of the form of the basilicas. In India we would call them Viharas and Chaityas, and, except from their paintings, would not suspect them to belong to another faith than that of Buddhism.



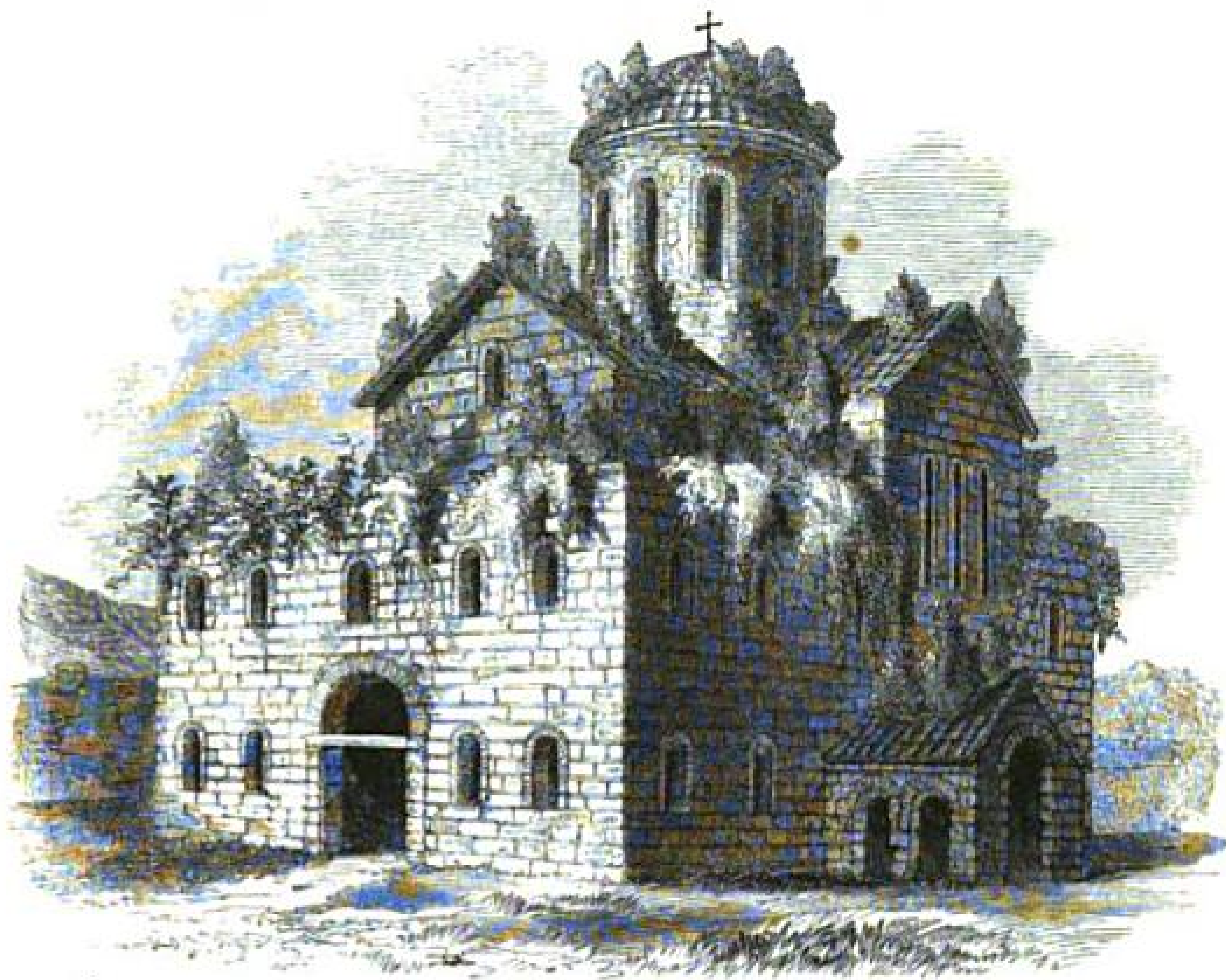
806. Cave at Inkermann. From Dubois de Montpereux.

The largest of the church caves in the Crimea appears to be one at Inkermann (woodcuts Nos. 804 and 805), about 36 ft. in length, and arranged as a small basilica. It is accompanied by square apartments, intended probably for religious purposes equally with the principal or church cave itself. The symbol of the cross is so deeply cut in the screen between the pillars as to show that it must always have been destined for Christian worship. Another square cave at Kirghast has a church now built by the side of it, and where the caves are still held sacred, there seems generally to be a structural part attached to them. These excavations are scattered in great numbers over the country, and, it need hardly be added, have been only very imperfectly examined as yet.



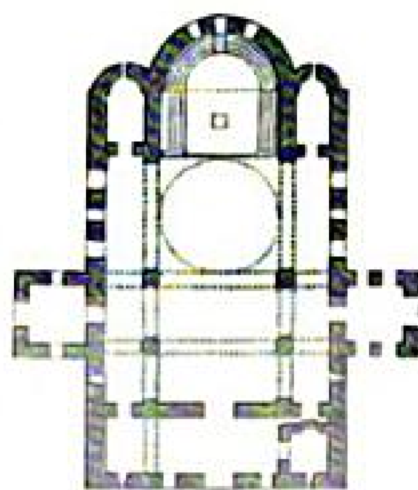
807. Section of Church at Pitzounda. From Dubois.

The first built church which we meet with in these regions is that at Pitzounda in Abbassia, on the shores of the Euxine (woodcuts Nos. 807–809). It is said to have been built by Justinian, and there is nothing in the structure to gainsay this opinion. The cupola, however, must have been rebuilt in more modern times, and the arches



808. View of Church at Pitzounda. From Dubois.

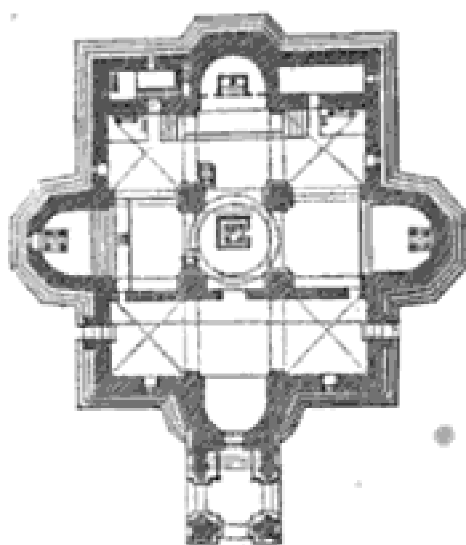
that supported it remodelled at the same time. Externally it is devoid of ornament, except what is obtained by the insertion of tiles between the stones, which give it a gay effect of colour, and the windows and projections are so spaced as to relieve it from heaviness. Internally both its plan and section are remarkable for simplicity. It may be described as a modification of the basilica on a small scale. All the surfaces are left plain, and devoid of architectural ornament, so as to admit of the greatest possible amount of painted decoration, much of which still remains on the half-ruined walls.



809. Plan of Church at Pitzounda. 100 ft. to 1 in.

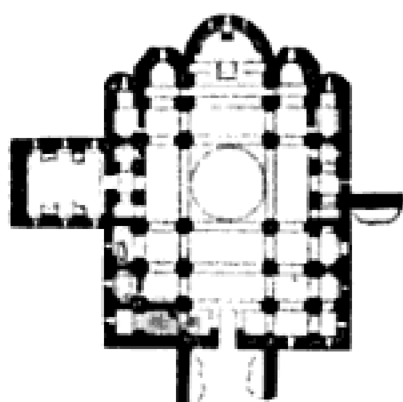
The most important ecclesiastical establishment in this part of the world is that of Etchmiasdin. Here are four churches said to have been built on the spots where rose the two arches or rainbows crossing one another at right angles on which Our Saviour sat when he appeared to St. Gregory. They

consequently ought to be at the four angles of a square, or rectangle of some sort, but this is far from being the case. The principal of these churches is that whose plan is represented in woodcut No. 810. It stands in the centre of a large square, surrounded by ecclesiastical buildings, and is on the whole rather an imposing edifice. Its porch is modern: so also, comparatively speaking, is its dome; but the plan, if not the greater part of the substructure, is ancient, and exhibits the plainness and simplicity characteristic of its age. The other three churches lay claim to as remote a date of foundation as this, but all have been so altered in modern times that they have now no title to antiquity.



810. Plan of Church at Etchmiasdin. From Brosset. Scale 100 ft. to 1 in.

One other church in this part of the world seems to claim especial mention, that of Mokwi, built in the 10th century, and painted, as we learn from inscriptions, between 1080 and 1125. It is a large and handsome church, but its principal interest lies in the fact that in dimensions and arrangement it is almost identical with the contemporaneous church of St. Sophia at Novogorod, showing a connexion between the two countries which will be more particularly pointed out hereafter. It is now very much ruined, and covered with a veil of creepers which prevent its outward form from being easily distinguished.



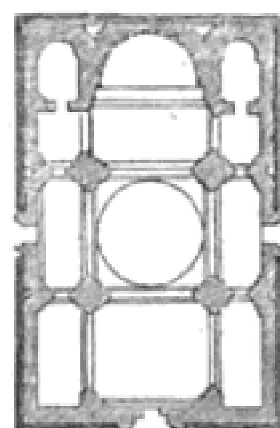
811. Plan of Church at Mokwi. Scale 100 ft. to 1 in.

Besides these a number of churches are mentioned by travellers as belonging to the period that elapsed between Justinian and the 10th century, but in the absence of drawings they are useless for our purpose, and an enumeration of their hard and unfamiliar names would interest no one. From this we pass at once to the 11th century, when what we have called the Armenian style appears in tolerable completeness, and continued to prevail without much change for two or three centuries.

The principal seat of this style is Ani, or at least that is the city which has been oftenest visited and described, and has become therefore to us at least the metropolis of the art.

The oldest and most important building in this city is the cathedral, which, if we may trust the inscription on its face, was built in the year 1010. The small church near the river was about a century later, and that at Dighour near Ani dates from 1240. Comparing these buildings by the rules by which we judge of the age of architectural remains in Europe, we should exactly reverse the order of the series, that at Dighour having nothing but heavy round or horse-shoe arches, with columns of pseudo-classical forms. The cathedral at Ani, on the other hand, has pointed arches, coupled columns, and has every ap-

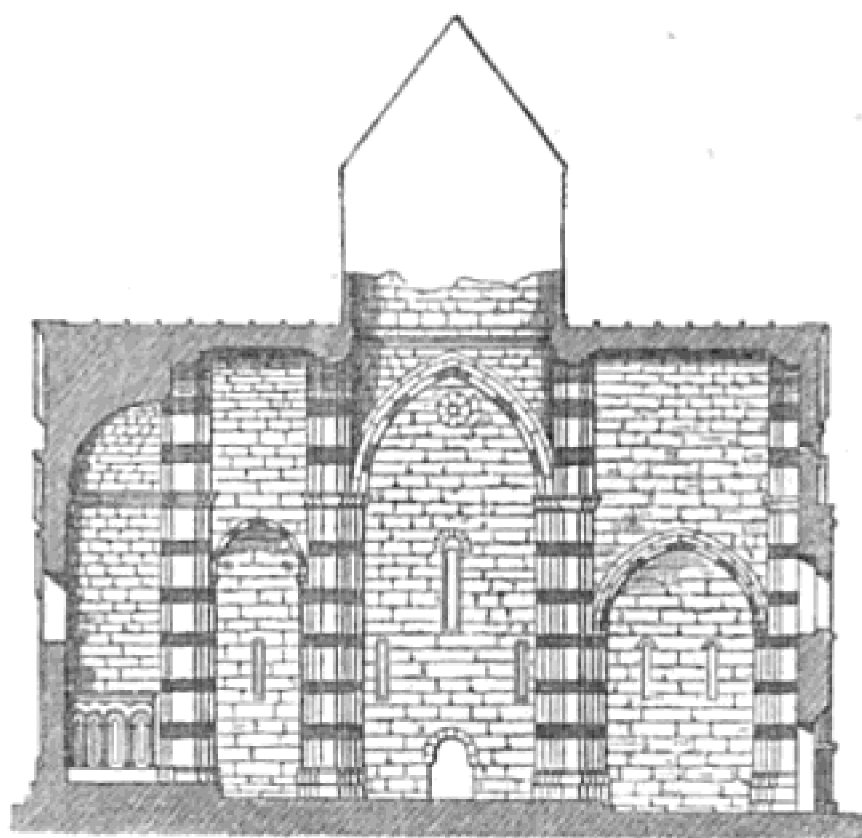
pearance of having felt the influence of the Crusaders. The small church at that place seems intermediate between these two. These and other examples quoted above, go far to prove that the pointed arch was used by the Christians in the East almost as early as the time of Constantine, and was abandoned for the round arch, as in France, at a period when the Mahometans were carrying its application to the greatest degree of perfection. Much, however, remains to be done before the history of the pointed arch, as existing before the Gothic styles, can be written with anything like certainty. The plan, section, and elevation (woodcuts Nos. 812–814) of the cathedral of Ani show the peculiarities of the style with tolerable completeness. It is not large, being only 70 ft. by 110, which is smaller than many parish churches in this country. Its style is remarkably beautiful; the external decoration consisting principally of small but elegant columns attached to the walls, and supporting arches adorned with scrolls of the most elaborate details. The roof is always in these churches broken into two heights, corresponding with the central and side aisles, and the transept is equally marked in the roof, though not in the plan. The most characteristic feature is the dome or cupola which crowns the intersection of the cross vaults. In Armenian churches it is always supported by a tall drum, and the outline is that of a straight-sided cone deeply indented with rectangular flutes.



812. Plan of Cathedral at Ani. From Texier. Scale 100 ft. to 1 in.

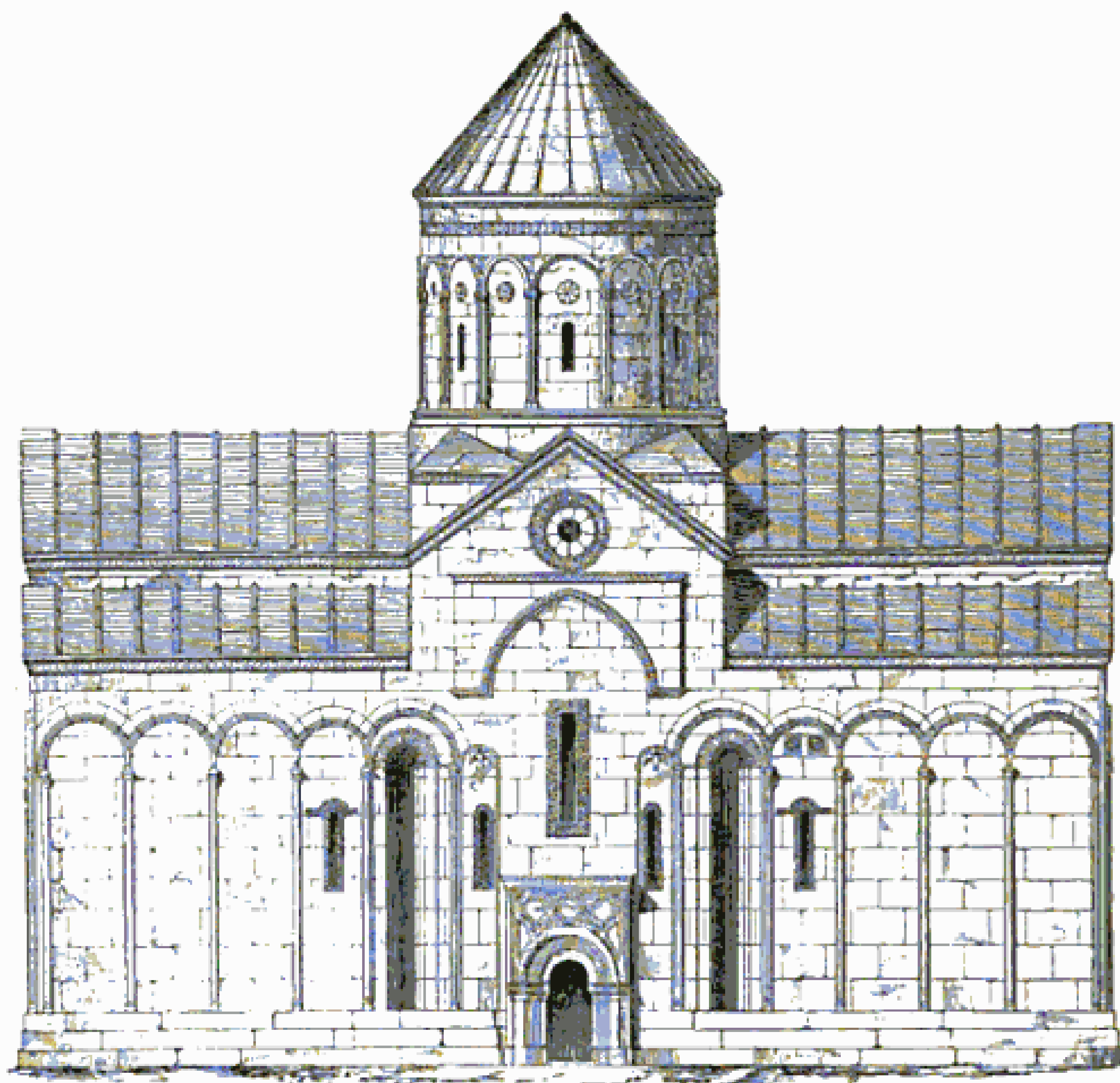
Internally the coupled piers and pointed arches of this cathedral recall more of the feelings of European art than any other building of this neighbourhood, and point to a style either influencing or influenced by a more Western art.

In the plan it will be well to remark the curious mode always employed in this country to mark the apses externally, not by projections, but by angular niches sunk in the wall, and made flush above by a small but richly ornamented arch.



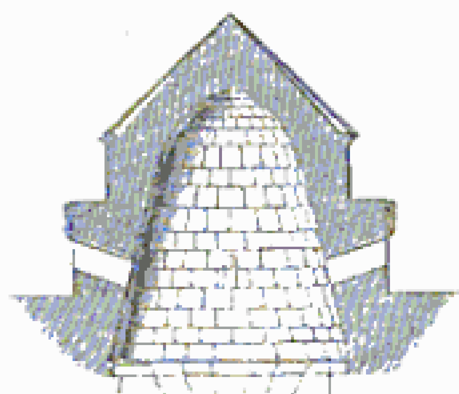
813. Section of Cathedral at Ani. Scale 50 ft. to 1 in.

The construction of the more solid of these domes will be understood from the section of that of Dighour (woodcut No. 815), which shows an elliptical cone internally, with a far more than sufficient abut-



814. Side Elevation of Cathedral at Ani. Enlarged scale.

ment on the exterior. It is indeed so timid a form of construction that one might feel inclined to suspect that there is some mistake in the date usually assigned to this church.

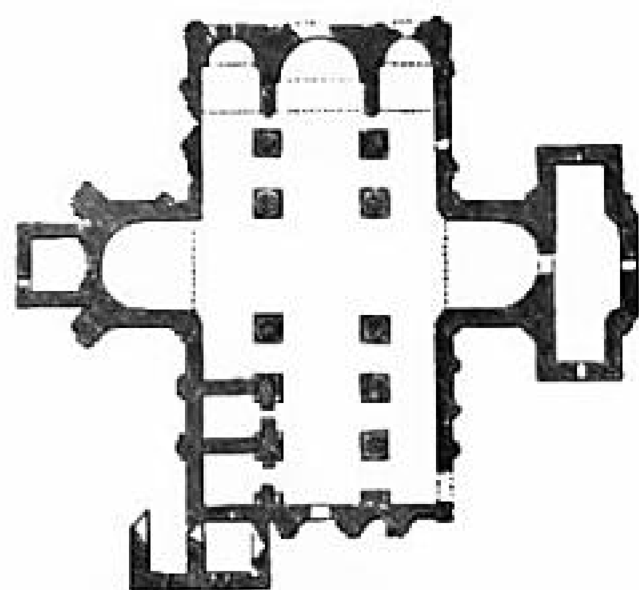


815. Section of Dome at Dighour.

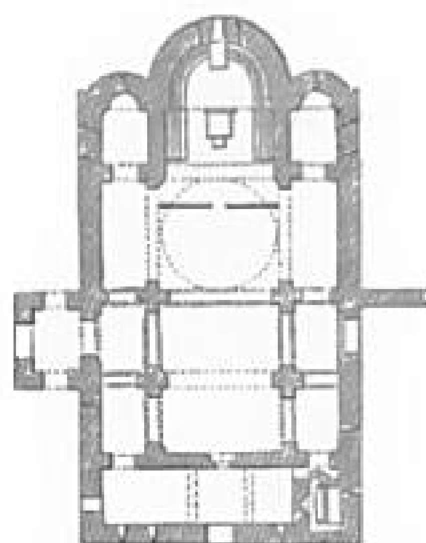
At Sandjerli, not far from Ani, is found another church, which, from inscriptions translated by M. Brosset, and from sections given by him, appears to belong to the same date (1033-1044), and to possess coupled columns and pointed arches like those of the cathedral of Ani, which indeed it resembles in many points, and which renders the date above given highly probable.

The largest and perhaps the finest example of the Armenian style is the now ruined church of Kouthais in Mingrelia, founded 1007. It has neither coupled piers nor pointed arches, but externally is ornamented with the same reed-like pilasters and elaborate frets, which leave no doubt of its being very nearly of the same age as that at Ani.

In the works of Dubois and Brosset the plans of some twenty or thirty churches are given besides those quoted above. They are all small, and so various in their arrangements as to defy classification, at least in the present state of our knowledge. The typical form may be

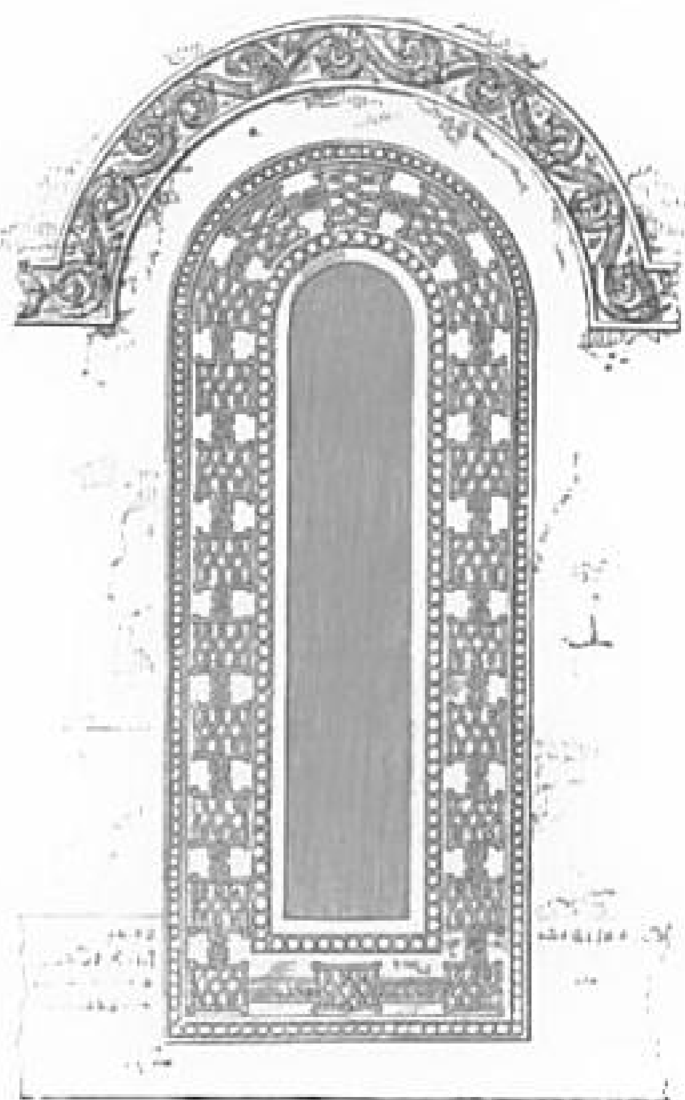


816. Church at Kouthais. From Dubois. Scale 100 ft. to 1 in.



817. Church at Bedochwinta. From Brosset. Scale 100 ft. to 1 in.

said to be that shown in the churches at Bedochwinta and Pitzounda, which are also above the average size of these churches. But besides this, some are square, some octagonal: in others polygons of every shape and variety are made up by circling smaller domes round a larger central one, not on each face, as at St. Mark's at Venice, but at the angles and alternate sides. Two, three, and even four churches, are sometimes grouped together side by side, and without any attempt at symmetry. None are large or remarkable for the arrangement of their plans. Internally they were always painted, and externally adorned with the reed-like columns shown in woodcut No. 814, and their windows and openings often ornamented with minute and elaborate carving more like jeweller's work than anything designed to be executed in stone. The general character of these decorations may be judged of from the specimen shown in woodcut No. 818, which is plain compared with some examples quoted by Dubois and Brosset, where the same elaborate intricacy is carried to an inconceivable extent—so much so that its value is often lost from its excessive minuteness.

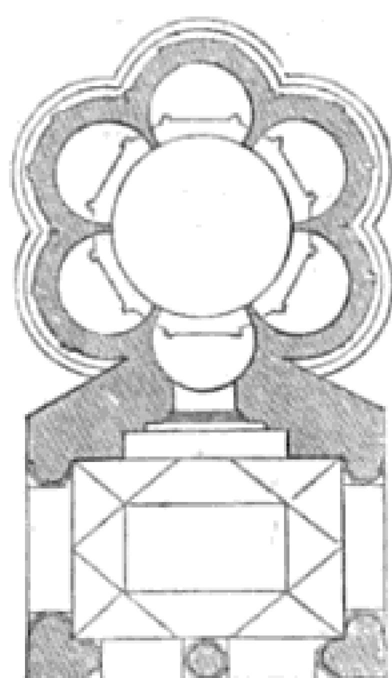


818. Window at Kouthais. From Dubois.

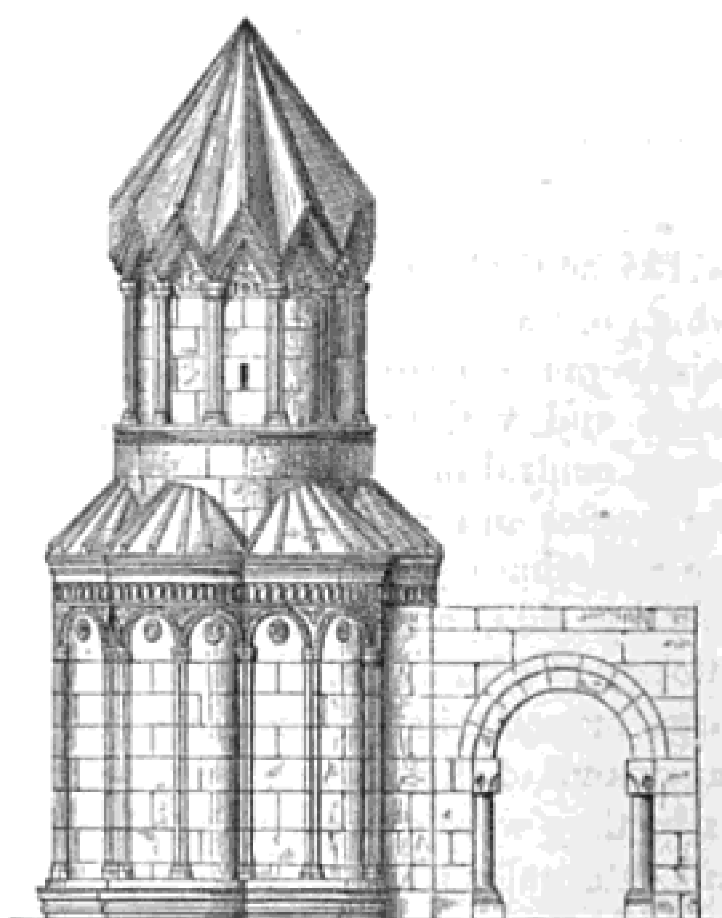
In Armenia we find frequent instances of circular or polygonal churches, a form very rare, and nearly unknown, in most other parts of the great Byzantine architectural province. Here, as elsewhere, they

are, so far as I know, always tombs or connected with sepulchral rites, and are indeed mere amplifications of the usual tombs of the natives of the country, which are generally little models of the domes of Armenian churches placed on the ground, and from which the domes of the Armenian churches were probably copied.

The most elegant of all these that have hitherto been made known is one found at Ani, illustrated in woodcuts Nos. 819 and 820. Notwithstanding the smallness of its dimensions, this is one of the most elegant sepulchral chapels known.



819. Plan of Tomb at Ani. From Texier.



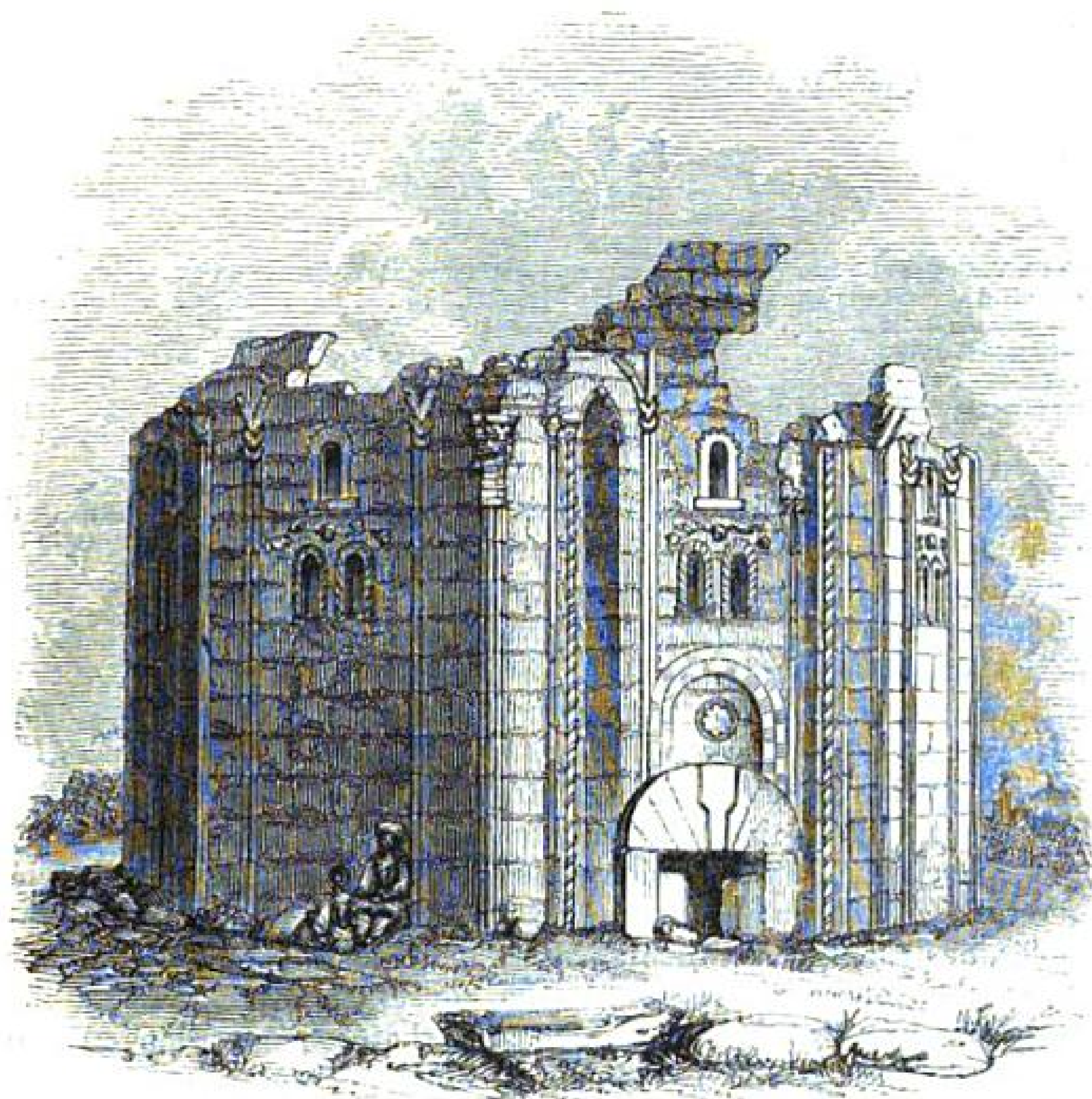
820. Tomb at Ani. From Texier.



Another on a larger scale (woodcut No. 821) is borrowed from Mr. Layard's book. This tomb shows all the peculiarities of the Armenian style of the 11th or 12th century. Though so much larger, it is by no means so beautiful as the last-mentioned tomb at Ani. A further refinement is introduced here, inasmuch as the reedlike columns are tied together by true-love knots instead of capitals, a freak not uncommon either in Europe at the same age, or in the East at the present day, but by no means to be recommended as an architectural expedient.

Taken altogether, Armenian architecture is far more remarkable for elegance than for grandeur, and possesses none of that greatness of conception or beauty of outline essential to an important architectural style. It is still worthy of more attention than it has hitherto received, even for its own sake. Its great title to interest will always be its ethnological value, being the direct descendant of the Sassanian style, and the immediate parent of that of Russia. At the same time, stand-

ing on the eastern confines of the Byzantine empire, it received thence that impress of Christian art which distinguished it from the former, and which it transmitted to the latter. It thus forms one of those important links in the chain of architectural history which when lost render the study of the subject so dark and perplexed, but when appreciated add so immensely to its philosophical interest.



821. Tomb at Varzahan. From Layard's Nineveh and Babylon.

CHAPTER III.

ARCHITECTURE OF RUSSIA.

CONTENTS.

Churches at Kieff — Novogorod — Moscow — Towers.

CHRONOLOGY.

	DATES.		DATES.
Rurik the Varangian at Novogorod	A.D. 850	Tartar wars and domination till	A.D. 1480
Olga baptized at Constantinople	955	Ivan III.	1462–1505
St. Vladimir the Great	980–1015	Basil IV.	1505–1533
Yoraslaf died	1055	Ivan IV., or the Terrible	1533–1584
Sack of Kieff	1168	Boris	1598–1605
Tartar invasion under Gengis Khan	1228	Peter the Great	1684–1725

The history of architecture in Russia is one of those departments of the subject the materials for which still remain to be collected. As far as any inquiry after architectural beauty is concerned, this is of very little importance; but the historical value of the style is considerable, and the art of so great a nation must not be passed over without at least trying to estimate it at its true value.

There are several reasons which would lead us to anticipate, *à priori*, that nothing could exist in the architecture of Russia either great or beautiful. For, in the first place, from the conversion of Olga (964) to the accession of Peter the Great (1682), with whom the national style expired, the country never emerged from barbarism. Torn by internal troubles, or devastated by incursions of the Tartars, the Russians never enjoyed the repose necessary for the development of art, and the country was too thinly peopled to admit of that concentration of men necessary for the carrying out of any great undertaking.

A second and more important fact is, that the inhabitants of Russia belong, principally at least, to the Slavonian race, which has hitherto shown itself less capable of architectural development than any other of the great divisions of mankind.

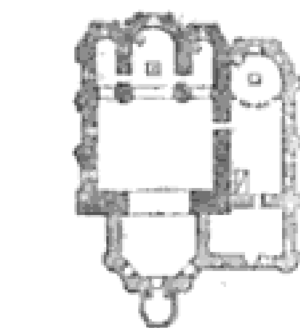
Even according to their own traditions, all the churches at Kieff, their earliest capital, were erected by Greek architects; those of Moscow by Italians or Germans; and those of St. Petersburg, we know, were, with hardly a single exception, erected by Italian, German, or French architects. And these last have perpetrated caricatures of revived Roman architecture worse than are to be found anywhere else. Bad as are some of the imitations of this art found in western Europe, they are all the work of native artists, they are, partially at least, adapted to the climate, and common sense peeps through their worst absurdities; but in Russia only second-class foreigners have been

employed, and the result is a style that out-Herods Herod in absurdity and bad taste. Architecture has languished not only in Russia, but wherever the Slavonic race predominates. In Poland, Hungary, Moldavia, Wallachia, &c., notwithstanding that some of these countries have at times been rich and prosperous, there is not a single original structure worthy to be placed in comparison with even the second-class contemporary buildings of the Teutonic or Celtic races.

A third cause of bad architecture is found in the material used, which almost universally is brick covered with plaster, and it is well known that the tendency of plaster architecture is constantly to extravagance in detail and bad taste in every form. It is also extremely perishable, which opens the way to repairs and alterations in defiance of congruity and of taste, and to the utter annihilation of everything like archæological value in the buildings that still remain.

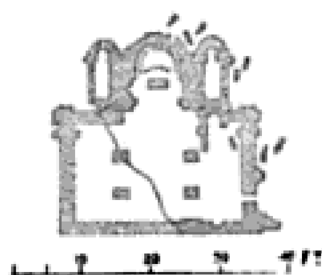
When the material was not brick, it was wood, like most of the houses in Russia of the present day, and the destroying hand of time, aided no doubt by fire at the times of the Tartar invasions, has swept away many buildings which would serve to fill up gaps now, it is feared, irremediable in the history of this art.

Notwithstanding all this, the history of architecture in Russia must by no means be considered as a blank, or as entirely devoid of interest. Locally we can follow the history of this style from the south to the north. Springing originally from two roots, one at Constantinople, the other in Armenia, it gradually extended itself northward to St. Petersburg. It first established itself at Cherson, then Kieff, and after these at Vladimir and Moscow, whence it extended to the great commercial city of Novogorod. At all these places it maintained itself till supplanted by the rise of St. Petersburg.



822. Church of St. Basil, Kieff. Scale 100 ft. to 1 in.

Though the Princess Olga was baptized in 964, the general profession of Christianity in Russia did not take place till the reign of Vladimir (981–1015). He built the cathedral of wood at Cherson which has perished. At Kieff the same monarch built the church of Desiatinna, the remains of which existed till within the last few years, when they were removed to give place to a modern abomination. He also built that of St. Basil in the same city, which, notwithstanding modern improvements, still retains its ancient plan, and is nearly identical in arrangement and form with the Catholicon at Athens (woodcut No. 790). The plan (woodcut No. 822) gives a fair idea of the usual dimensions of the older churches of Russia. The parts shaded lighter are subsequent additions.

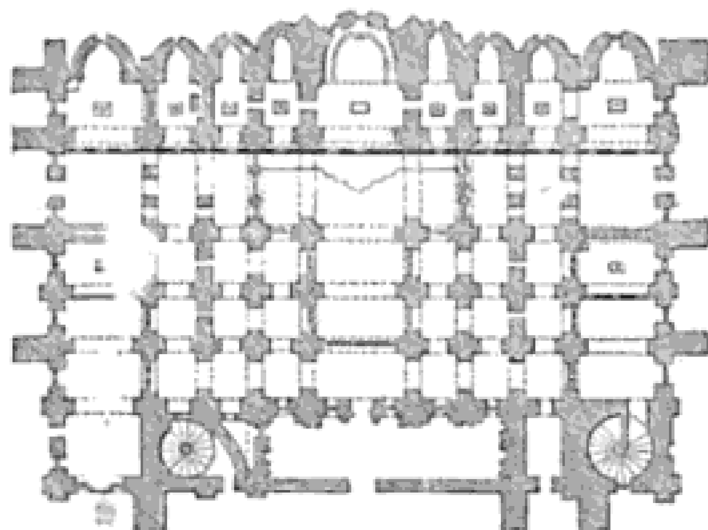


823. St. Irene, Kieff.

A greater builder than Vladimir was Prince Yaroslaf (1019–1054). He founded the church of St. Irene at Kieff (woodcut No. 823), the ruins of which still exist there. It is a good specimen of the smaller class of churches of that date.

His great works were the cathedrals of Kieff and Novogorod, both dedicated to Sta. Sophia, and with the church at Mokwi quoted above (woodcut No. 811) form the most interesting group of Russian churches of that age. All three belong to the 11th century, and are so extremely similar in plan, that, deducting the subsequent additions from the two Russian examples, they may almost be said to be identical. They also show so intimate a connexion between the places on the great commercial road from the Caucasus to the Baltic, that they point out at once the line along which we must look for the origin of the style.

Of the three, that at Kieff[1] (woodcut No. 824) is the largest; but it is nearly certain that the two outer aisles there are subsequent additions, and that the original church was confined to the remaining seven aisles. As it now stands, its dimensions are 185 ft. from north to south, and 136 from east to west. It consequently covers only about 25,000 ft., or not half the usual dimensions of a Western cathedral of the same class. As will be perceived, its plan is like that of the churches of Asia Minor so far as the central aisles are concerned. Its lateral extension resembles that of a mosque, a form very unusual in Christian churches in other countries, but which here may be a Tartar peculiarity. At all events it is generally found in Russian churches, which never adopt the long basilican form of the West. If their length in an eastern and western direction ever exceeds the breadth, it is only by taking in the narthex with the body of the church.



824. Plan of Cathedral at Kieff. Scale 100 ft. to 1 in.

Internally this church retains many of its original arrangements, and many decorations which, if not original, are at least restorations or copies of those which previously occupied their places. Externally it has been so repaired and rebuilt that it is difficult to detect what belongs to the original work.

In this respect the church of Novogorod has been more fortunate. Owing to the early decline of the town it has not been much modernised. The interior of the church retains many of its primitive features. Among other furniture a pair of bronze doors of Italian workmanship of the 12th century closely resemble those of San Zenone at Verona. The part of the exterior that retains most of its early features is the eastern end, represented in the woodcut (No. 825). As will be seen, it retains the long reed-like shafts which the Armenians borrowed from the Sassanians, and which penetrated even to this

[1] All the plans and information regarding the churches at Kieff are obtained from a Russian work devoted to the subject, procured for me on the spot by Mr. Vignoles, C.E.



825. East End of the Church at Novogorod. From a drawing by A. Durand.

remote corner. Whether the two lower circular apses shown in the view are old is by no means clear: it is probable that they are at least built on ancient foundations. The domes on the roof, and indeed all the upper part of the building, belong to a more modern date than the substructure.

The cathedral of Tchernigow, near Kieff, founded 1024, retains perhaps more of its original appearance externally than any other church of its age. Like almost all Russian churches it is square in plan, with a dome in the centre surrounded by four smaller cupolas. To the eastward are three apses, and the narthex in this instance is flanked by two round towers, the upper parts of which with the roofs have been modernised, but the whole of the walls remain as originally erected, especially the end of the transept, which precisely resembles what we find in Greek churches of the age.

To the same age belong the convent of the Volkof (1100) and of

Yourief at Novogorod, the church of the Ascension, and several others at Kieff. All these are so modernised as, except in their plans, to show slight traces of their early origin.



826. Cathedral at Tchernigow. From Blasius, Reise in Russland.

Another of the great buildings of the age was the cathedral of Vladimir (1046). This is said to have been built, like the rest, by Greek artists. The richness and beauty of this building have been celebrated by early travellers, but it has been entirely passed over by more modern writers. From this it is perhaps to be inferred that its ancient form is completely disguised in modern alterations.

The ascendancy of Kieff was of short duration. Early in the 13th century the city suffered greatly from civil wars, fires, and devastations of all sorts, which humbled her pride and inflicted on her such ruin as she never wholly recovered from.



827. Village Church near Novogorod. From a Sketch by A. Durand.

Vladimir was after this the residence of the Grand Dukes, and in the beginning of the 14th century Moscow became the capital, and continued to be so till the seat of empire was transferred by Peter the Great to the present capital. During these three centuries Moscow was adorned with many splendid buildings, which almost all trace their foundation back to the 14th century; but as fires and Tartar invasion have frequently swept over the city since then, few retain any of the features of their original foundation, and it may therefore perhaps be well to see what can be gleaned in the provinces before describing the buildings of the capital.

As far as can be gathered from the sketch-books of travellers or their somewhat meagre notes, there are few towns in Russia that were of any importance during the middle ages which do not possess churches said to be founded in the first centuries after its conversion to Christianity, though whether the buildings actually existing are the originals, or how far they may have been altered and modernised, will not be known till some archæologist visits the country, directing his attention to this particular inquiry. It is certain that though the Russians built probably a greater number of churches than any nation of Christendom, like the Greek churches they were all small. Kieff is said, even in the age of Yaroslaf, to have contained 400 churches, Vladimir nearly as many. Moscow, in the year 1600, had 400 churches (of which 37 were in the Kremlin), and now possesses many more.

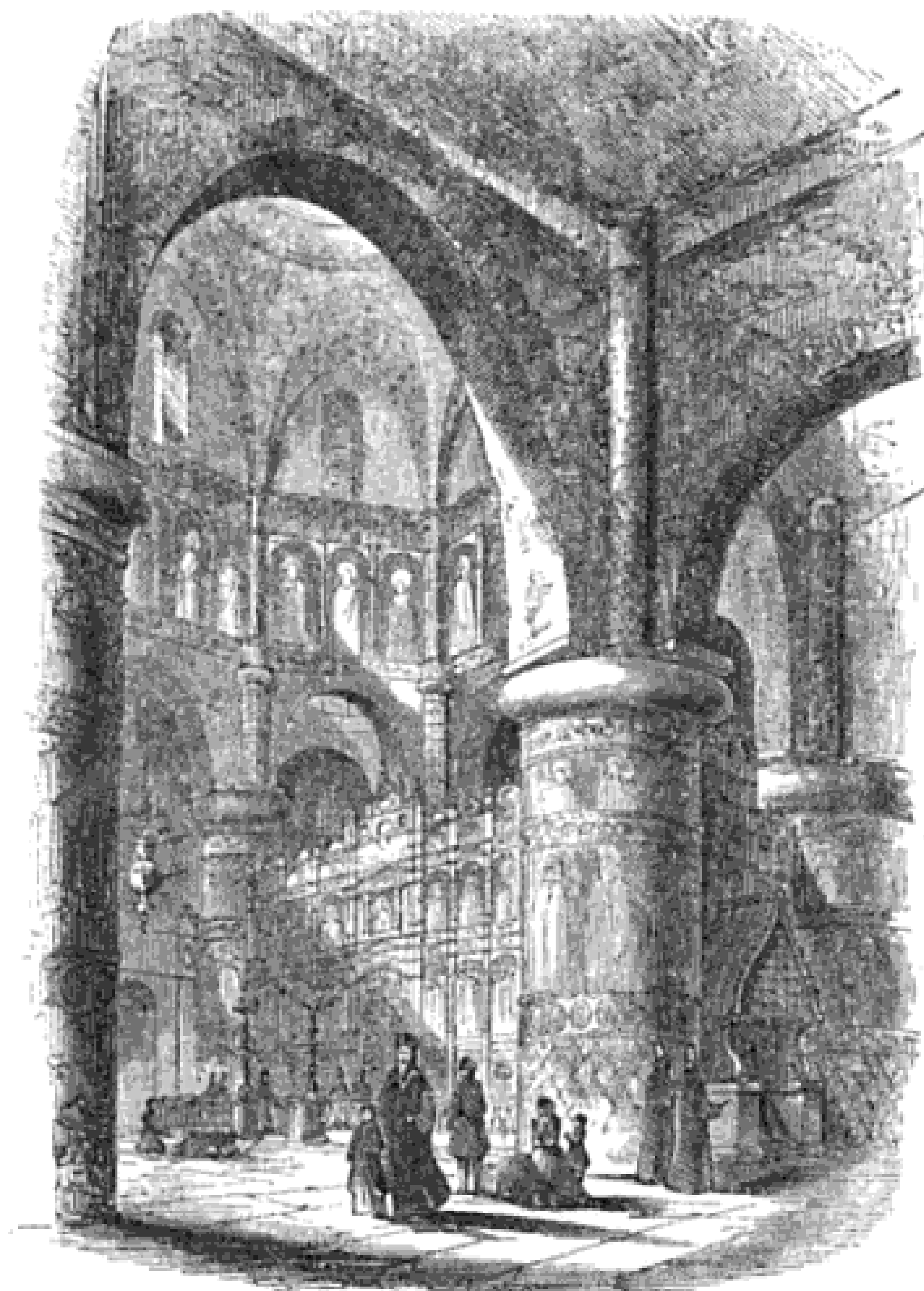


828. Village Church near Tzarkoe Selo. From Durand

Many of the village churches still retain their ancient features; the example here given (woodcut No. 827) of one near Novogorod belongs probably to the 12th century, and is not later than the 13th. It retains its shafted apse, its bulb-shaped Tartar dome, and, as is always the case in Russia, a square detached belfry, though in this instance the latter appears somewhat more modern than the edifice itself. Woodcut No. 828 is the type of a great number of the old village churches, which, like the houses of the peasants, are of wood, gene-

rally of logs laid one on the other, with their round ends intersecting one another at the angles, like the log-huts of America at the present day. As architectural objects they are of course insignificant, but still they are characteristic and picturesque.

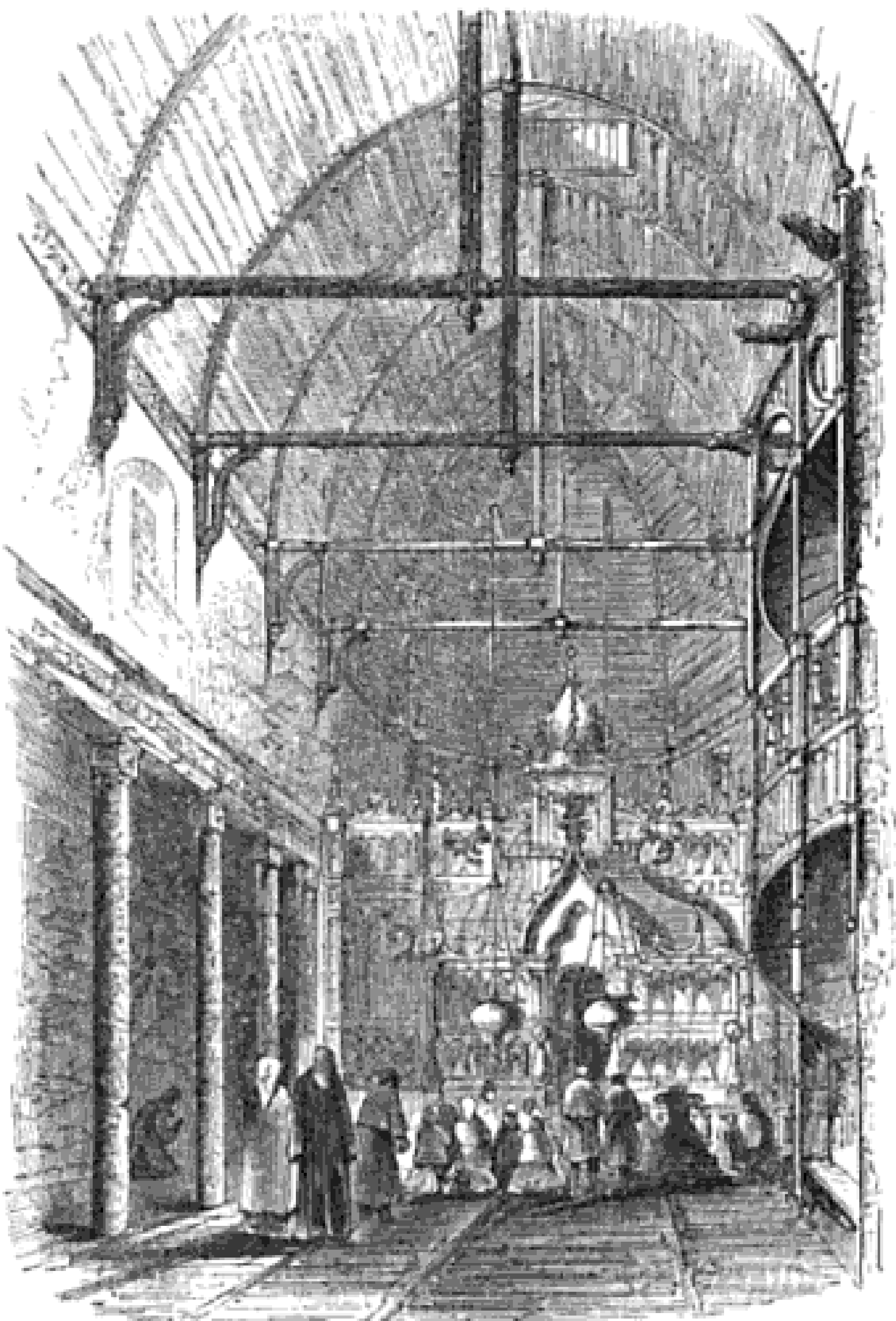
Internally all the arrangements of the stone churches are such as are appropriate for painted rather than for sculptural decoration. The pillars are generally large cylinders covered with portraits of saints, and the capitals plain, cushion-like rolls, with painted ornaments. The vaults are not relieved by ribs nor by any projections that could interfere with the coloured decorations. In the wooden churches the construction is plainly shown, and of course is far lighter. In them also colour almost wholly supersedes carving. The peculiarities of these two styles are well illustrated in the two woodcuts, Nos. 829 and 830, from churches near Kostroma in Eastern Russia. Both belong to the middle ages, and both are favourable specimens of their respective classes. In these examples, as indeed in every Greek church, the principal object of ecclesiastical furniture is the *iconostasis* or image-bearer. The corresponding object in Latin churches is the rood screen that separates the choir from the nave. The rood screen, however, never assumed in the West the importance which the iconostasis always possessed in the East. There it separates from the church the sanctuary and the altar, from which the laity are wholly excluded. Within it the elements are consecrated, in the presence of the priests alone, and are then brought forward to be displayed to the public. On this screen, as performing so important a part, the Greek architects and artists have lavished the greatest amount of care and design, and in every Greek church, from St. Mark's at Venice to the extreme



829. Interior of Church at Kostroma. From Durand.

confines of Russia, it is the object that first attracts attention on entering. It is so important that it must be regarded rather as an object of architecture than of church furniture.

The architectural details of these buildings must be pronounced to be bad, for, even making every allowance for difference of taste, there is neither beauty of form nor constructive elegance in any part. The most characteristic features are the five domes that generally ornament the roofs, and they are pleasing features; and when they rise from the *extrados*, or uncovered outside of the vaults, they certainly look well. Too frequently the vault is covered by a wooden roof, and the domes then peer through it in a manner by no means to be admired. The details of the lower part are generally bad. The view (woodcut No. 831) of a doorway of the Troitza Monastery, near Moscow, is sufficiently characteristic. Its most remarkable feature is the baluster-like pillars of which the Russians seem so fond. These support an arch with a pendant in the middle—a sort of architectural *tour de force* which the Russian architects practised everywhere and in every age, but which is far both from being beautiful in itself and from possessing any architectural propriety. The great roll over the door is also unpleasant. Indeed, as a general rule, wherever in Russian architecture the details are original, they must be condemned as ugly.



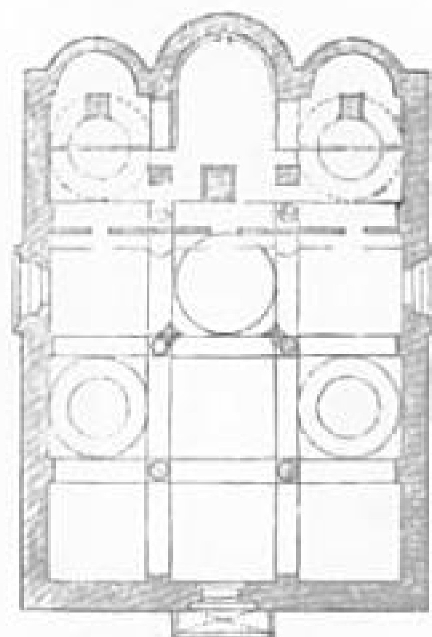
830. Interior of Church near Kostroma. From Durand.

At Moscow we find much that is at all events curious. It first became a city of importance about the year 1304, and retained its prosperity throughout that century. During that time it was adorned by many sumptuous edifices. In the beginning of the 15th century it was taken and destroyed by the Tartars, and it was not till the reign of Ivan III. (1462–1505) that the city and empire recovered the disasters of that period. It is extremely doubtful if any edifice now found in the city can date before the time of that monarch.

In the year 1479 this king dedicated the new church of the Assumption of the Virgin, said to have been built by one Aristoteles, a native of Bologna in Italy, who was brought to this country expressly for the purpose. The plan of it (woodcut No. 832) gives a good idea of the arrangement of a Russian church of this age. Like the true Byzantine churches, it would be an exact square, but that the narthex being taken into the church gives it a somewhat oblong form. There is, as is almost universally the case, one large dome over the centre of the square, and four smaller in the four angles. The great iconostasis runs, as at St. Sophia at Kieff, quite across the church; but the two lateral chapels have smaller screens inside which hide their altars, so that the part between the two becomes a sort of private chapel. This seems to be the plan of the greater number of the Russian churches of this age.

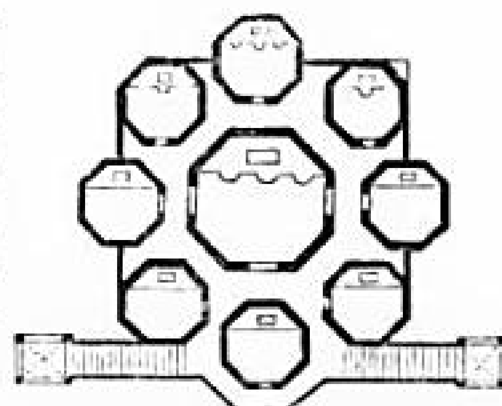


831. Doorway of the Troitza Monastery, near Moscow.



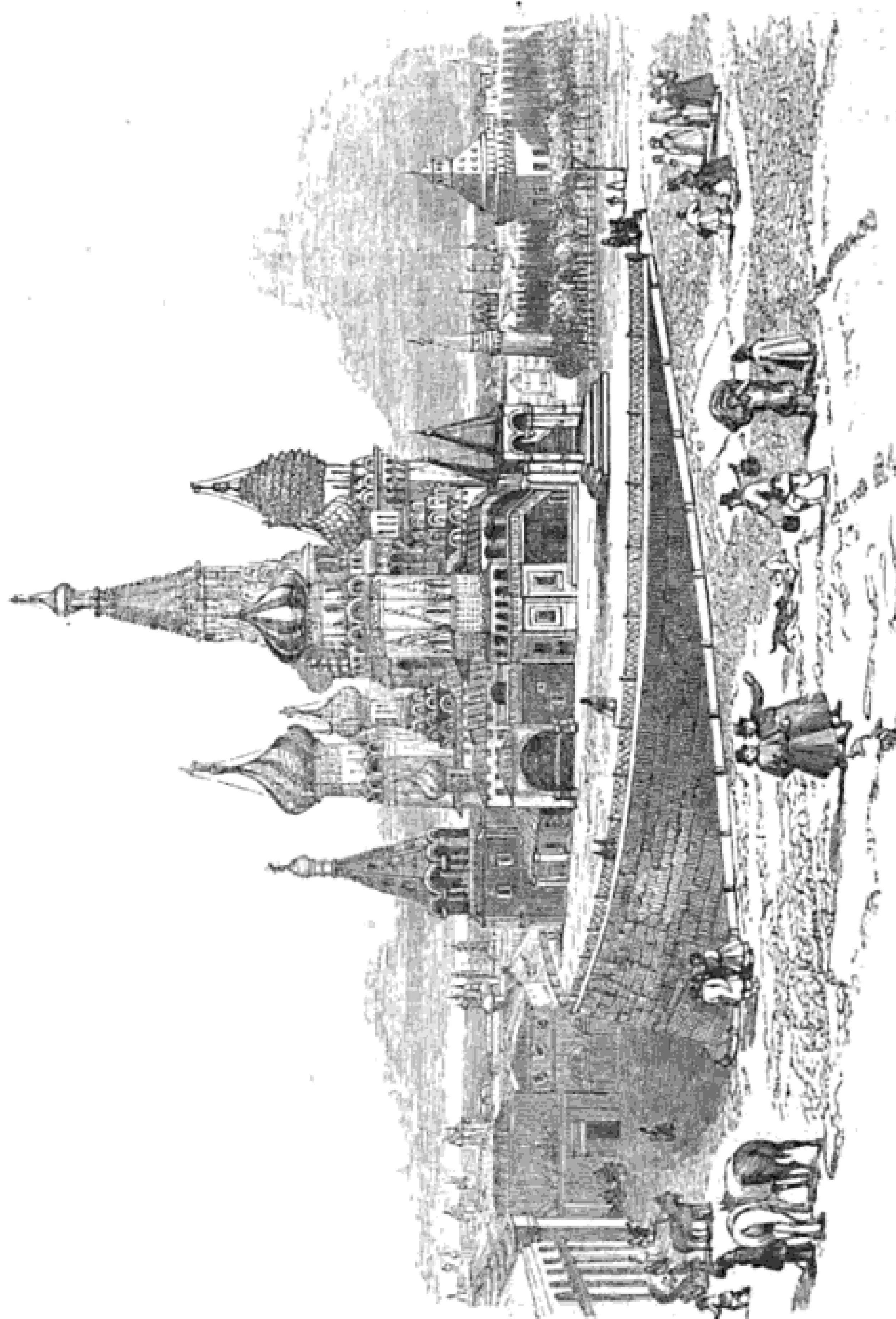
832. Plan of the Church of the Assumption, Moscow. No scale.

But there is one church in Moscow, that of Vassili (St. Basil) Blanskenoy, which is certainly the most remarkable, as it is the most characteristic, of all the churches of Russia. It was built by Ivan the Cruel (1534–1584), and its architect was a foreigner, generally supposed to have been from the West, inasmuch as this monarch sent an embassy to Germany under one Schlit, to procure artists, of whom he is said to have collected 150 for his service. If, however, German workmen erected this building, it certainly was from Tartar designs. Nothing like it exists to the westward. It more resembles the Kylas at Ellora, or the Raths at Mahavellipore, than any



833. Plan of the Church of Blanskenoy, Moscow. No scale.

European structure, and in fact must be considered as almost purely a Tartar building. Still, though strangely altered by time, most of its forms can be traced back to the Byzantine style as certainly as the details of the cathedral of Cologne to the Romanesque. The central spire, for instance, is the form into which the Russians had during five centuries



834. View of the Church of Vassili Blanskenoy, Moscow.

gradually changed the straight-lined dome of the Armenians. The eight others are the Byzantine domes converted by degrees into the bulb-like forms which the Tartars practised at Agra and Delhi, as well as throughout Russia. The arrangement of these domes will be understood by the plan (woodcut No. 833), which shows it to consist of one

central surrounded by eight smaller octagons, raised on a platform ascended by two flights of stairs, beneath which is a crypt. The general appearance will be understood from the woodcut, for words would fail to convey any idea of so bizarre and complicated a building as this is. At the same time it must be imagined as painted with the most brilliant colours, its domes gilt and relieved by blue, green, and red, and altogether a combination of as much barbarity as it was possible to bring together in so small a space. To crown the whole, according to the legend, Ivan ordered the eyes of the architect to be put out, lest he should see to surpass his own handiwork.

Towers.

Next in importance to the churches themselves are the belfries which always accompany them. The Russians seem never to have



835. Tower of Ivan Veliki, Moscow.

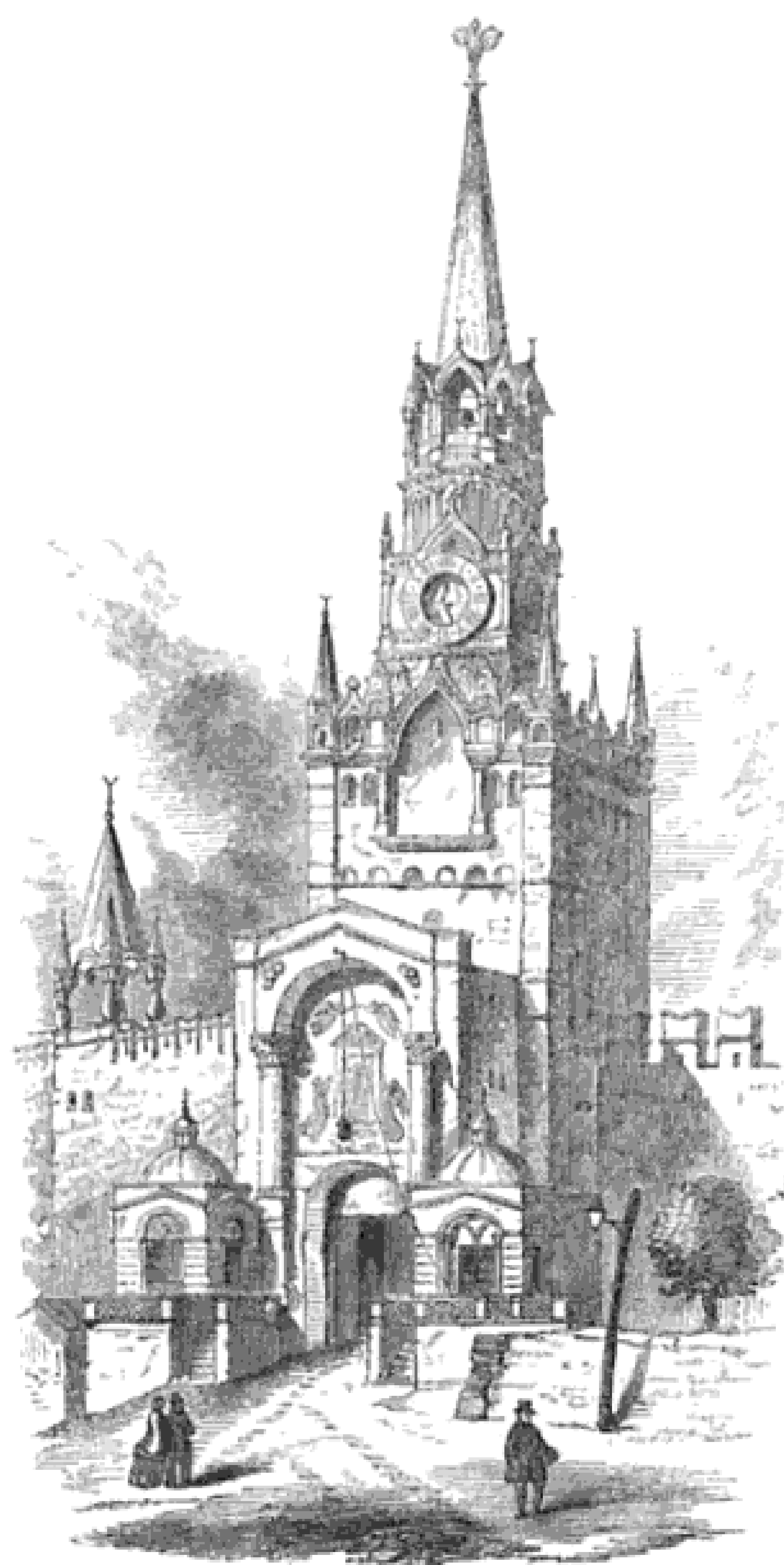
adopted separate baptisteries, nor did they affect any sepulchral magnificence in their tombs. From the time of Herodotus the Scythians were great casters of metal, and famous for their bells. The specimens of casting of this sort in Russia reduce by comparison all the great bells of Western Europe to insignificance. It of course became necessary to provide places in which to hang these bells; and as no feature, either in Byzantine or Armenian architecture, afforded a hint for amalgamating the belfry with the church, they went to work in their own way, and constructed their towers wholly independent of the churches themselves. Of all those in Russia, that of Ivan Veliki, erected by the Czar Boris, about the year 1600, is the finest. It is surmounted by a cross 18 ft. high, standing on a crescent, as is universally the case on all ecclesiastical buildings. Its total height is 269 ft. It cannot be said to have any great beauty, either of form or detail; but it rises boldly from the ground, and towers over all the other buildings of the Kremlin. With this tower for its principal object, the whole mass of building is at least picturesque, if not architecturally beautiful. In the woodcut (No. 835) it is shown with the belfry, which was blown up by the French previous to their retreat, and has been since rebuilt, and with a church on either hand, making up the finest group in the Kremlin.


836. Tower of Boris, Kremlin, Moscow.

Besides the bell-tower the walls of the Kremlin are adorned with towers, not meant merely as military defences, but as architectural ornaments, and which remind us more of those described by Josephus, as erected by Herod on the walls of Jerusalem. One of these towers (woodcut No. 836), built by the same Czar Boris who erected that last described, is a good specimen of its class. It

is one of the principal of those which give to the walls of the Kremlin so peculiar and striking a character.

These towers, however, are not peculiar to the Kremlin of Moscow. Every city had its Kremlin in Russia, as every one in Spain had its Alcazar, and all were adorned with walls deeply machicolated, interspersed with towers. Within this were inclosed 5-domed churches and belfries, just as at Moscow, only of course on a scale proportionate to the importance of the city, and it would be easy to select numerous illustrations of the sort. They are all very much like one another, nor have they sufficient beauty to require us to dwell long on them. Their gateways, however, are frequently important. Every city had its *porta santa*, deriving its importance either from some memorable event, or from miracles wrought there, and being the triumphal gateways through which all processions pass on state occasions.



837. Holy Gate, Kremlin, Moscow.

The best known of these is that of Moscow, beneath whose sacred arch even the Emperor himself must uncover his head as he passes through; and which, from its sanctity as well as its architectural character, forms an important feature among the antiquities of Russia.

So numerous are the churches, and generally speaking, the fragments of antiquity in this country, that it would be easy to multiply examples to almost any extent. Those quoted in the preceding pages are certainly not only the finest architecturally, but also the most interesting in an antiquarian point of view, of those which have yet been visited and drawn, and there is no reason to believe that others either more magnificent or more beautiful still remain undescribed.

This being the case, it is safe to assert that Russia contains nothing

that can at all compare with the cathedrals, or even the parish churches of Western Europe, either in dimensions or in beauty of detail. Every chapter in the history of architecture must contain something to interest the student: but there is none less worthy of attention than that which describes the architecture of Russia, especially when we take into account the extent of territory occupied by this people, and the enormous amount of time and wealth which has been lavished on the numberless but insignificant buildings which are found in every corner of the empire.

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